R E P O R T R E S U M E S

ED 017 996 EA 001 194

CORRELATIONAL AND FACTORIAL ANALYSES OF ITEMS FROM THE EDUCATIONAL OPPORTUNITIES SURVEY TEACHER QUESTIONNAIRE.

BY- WEINFELD, FREDERIC D. AND OTHERS

NATIONAL CENTER FOR EDUCATIONAL STATISTICS (DHEW)
REPORT NUMBER TN-49 PUB DATE 29 DEC 67
EDRS PRICE MF-$0.50 HC-$3.08 75P.

DESCRIPTORS- *FACTOR ANALYSIS, *ELEMENTARY SCHOOL TEACHERS, *SECONDARY SCHOOL TEACHERS, TEACHER SALARIES, RACIAL BALANCE, *QUESTIONNAIRES, CORRELATION, *TEACHER CHARACTERISTICS, TEACHER BACKGROUND, TEACHER EXPERIENCE, TEACHING CONDITIONS, SOCIOECONOMIC BACKGROUND, TEACHER EDUCATION, COMPUTER ORIENTED PROGRAMS, SURVEYS, EDUCATIONAL OPPORTUNITIES, DISTRICT OF COLUMBIA,

THIS REPORT PRESENTS INTERCORRELATIONS AND FACTOR ANALYSES OF ITEMS FROM THE TEACHER QUESTIONNAIRE ADMINISTERED AS PART OF THE EDUCATIONAL OPPORTUNITIES SURVEY. THE CORRELATIONS AMONG SELECTED ITEMS FROM THE 102-ITEM TEACHER QUESTIONNAIRE WERE COMPUTED TO (1) DISPLAY THEIR INTERRELATIONSHIPS, (2) DOCUMENT THEM FOR OTHER RESEARCHERS, AND (3) SERVE AS A BASIS FOR FACTOR ANALYSES. FACTOR ANALYSES WERE CONDUCTED TO REDUCE THE NUMBER OF ITEMS IN AN EMPIRICALLY MEANINGFUL WAY, THUS REDUCING THE VOLUME OF DATA PROCESSING AND COMPLEXITY OF LATER ANALYSES. ALL ANALYSES WERE CONDUCTED FOR BOTH ELEMENTARY AND SECONDARY TEACHERS USING 45 VARIABLES. AGE, SIZE OF COMMUNITY IN WHICH THE TEACHER SPENT MOST OF HIS LIFE, HIGHEST DEGREE HELD, NUMBER OF CREDITS BEYOND THE HIGHEST DEGREE, YEARS OF TEACHING EXPERIENCE, YEARS TEACHING IN PRESENT SCHOOL, CERTIFICATION, EMPLOYMENT STATUS AND PLANS TO TEACH UNTIL RETIREMENT WERE FOUND TO BE MODERATELY CORRELATED WITH THE TEACHER'S SALARY. PRINCIPAL COMPONENTS ANALYSES OF THE INTERCORRELATIONS AND VARIMAX ROTATIONS OF THE FACTORS YIELDED EIGHT MEANINGFUL FACTORS--EXPERIENCE, TEACHING CONDITIONS, LOCALISM OF BACKGROUND, SOCIOECONOMIC BACKGROUND, TRAINING, COLLEGE ATTENDED, TEACHING RELATED ACTIVITIES, AND PREFERENCE FOR STUDENT ABILITY LEVEL. EA 001 195 IS A RELATED DOCUMENT. (HW)

DOCUMENT FILMED FROM BEST AVAILABLE COPY

Working Paper
Does Not Reflect
Official Policy of
The Office of Education

ED017996

NATIONAL CENTER FOR EDUCATIONAL STATISTICS
Division of Operations Analysis

CORRELATIONAL AND FACTORIAL ANALYSES OF ITEMS FROM THE EDUCATIONAL OPPORTUNITIES SURVEY TEACHER QUESTIONNAIRE

by

Frederic D. Weinfeld
George W. Mayeske
Albert E. Beaton, Jr.

Technical Note
Number 49

December 29, 1967

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

EA 001 194

OFFICE OF EDUCATION/U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
John W. Gardner, Secretary

OFFICE OF EDUCATION
Harold Howe II, Commissioner

NATIONAL CENTER FOR EDUCATIONAL STATISTICS
Francis C. Nassetta, Acting Assistant Commissioner

DIVISION OF OPERATIONS ANALYSIS
David S. Stoller, Director

TABLE OF CONTENTS

	Page
LIST OF TABLES	iii
INTRODUCTION	1
LIST OF VARIABLES	1
DISCUSSION OF SOME SELECTED CORRELATIONS	7
Correlates of Teacher Salary	8
Correlates of Percent of White Students in Teachers Class	9
FACTOR ANALYSES-PROCEDURES AND RESULTS	10
Procedures	10
Results	12
INDEX SCORE INTERCORRELATIONS	21
CORRELATIONS OF ELEMENTARY TEACHER INDICES WITH VARIABLES ELIMINATED FROM THE ANALYSIS AND SPECIAL STUDIES VARIABLES	22
CONCLUSIONS	24
LIST OF REFERENCES CITED	27
APPENDIX A -- Coding of Items from the Teacher Questionnaire for Elementary and Secondary Teachers	

TABLE OF CONTENTS

APPENDIX B — Item Means, Standard Deviations and Intercorrelations From the Teacher Questionnaire for Elementary and Secondary Teachers

APPENDIX C — Varimax Factors for Elementary and Secondary Teachers

APPENDIX D — Index and Selected Variable Intercorrelations for Elementary Teachers

LIST OF TABLES

Table Number	Title	Page
1	Correlates of Teacher Salary	8
2	Correlates of Percent of White Students in Teachers Class	9
3	Amount and Cumulative Percent of Variance Accounted for by Principal Components for Elementary and Secondary Teachers	11
4	Teacher Index I: Experience	13
5	Teacher Index II: Teaching Conditions	14
6	Teacher Index III: Localism of Background	15
7	Teacher Index IV: Socio-Economic Background	16
8	Teacher Index V: Training	17
9	Teacher Index VI: College Attended	18
10	Teacher Index VII: Teaching Related Activities	19
11	Teacher Index VIII: Preference for Student Ability Level	20
12	Index Intercorrelations for Elementary Teachers	21
13	Correlations of Elementary Teacher Indices with Selected Other Variables.	23

Correlational and Factorial Analyses of Items From the Educational Opportunities Survey Teacher Questionnaire

INTRODUCTION

The following report presents intercorrelations and factor analyses of items from the teacher questionnaire administered as part of the Educational Opportunities Survey (EOS), (see List of References). The correlations among selected items from the teacher questionnaire were computed in order to: (1) display their inter-relationships; (2) to document them for other researchers; (3) and to serve as a basis for the factor analyses. The factor analyses were conducted to reduce the number of items in an empirically meaningful way so that the volume of data processing and complexity of later analyses would be reduced. By empirically meaningful is meant that groups of variables (or factors) would be sought that correlated substantially with one another and very little with other variables but that were also psychologically or sociologically meaningful.

All analyses were conducted for two groups of teachers labeled ELEMENTARY and SECONDARY. The two groups of teachers were selected on the basis of their response to a question concerned with their highest grade taught (question 59). Thus those who said they taught the ninth grade or higher are included in the group of 9th to 12th grade teachers which has been labeled SECONDARY. Similarly, those who said they taught the eighth grade or less are included in the group of kindergarten through 8th grade teachers which has been labeled ELEMENTARY.

LIST OF VARIABLES

The teacher questionnaire contained 102 questions. Seventy-two of these were concerned with a wide variety of questions relating to the teacher's education, work experience, working conditions, preference for different kinds of students, involvement in guidance activities, opinions on social issues, etc. The latter part of the teacher questionnaire consisted of a thirty item contextual vocabulary test. Twenty-six of these first seventy-two items were deleted from the analyses because they were regarded as being too specialized or could be best retained as single items for special studies or were of peripheral interest. Thus many of the items concerned with integration were judged to be best kept as single items for special studies and many of the counseling questions were of peripheral interest to the investigators.

The list of variables used in the analyses and the manner in which they are coded are given below.

The detailed numerical codes used and the value assigned for a response when a person failed to respond to a particular question (non-response)

are given in Appendix A. Results of earlier analyses of the percent of teachers responding to each question and their average verbal score were used as a guide in deciding how to code non-responses (see Mayeske, et. al. in the List of References for these analyses and the actual questions from the questionnaire).

Variable Number	Title	Manner of Coding
1	Sex	One for female, zero for male.
2	Age	High value indicates older age.
3	Area Spent Most of Life	High value indicates individual spent most of life in another area or State.
4	Type/Size of Community Spent Most of Life	High value indicates urban and suburban.
5	Racial-Ethnic Differences on Contextual Vocabulary	Each person was assigned the mean verbal score of his own race or ethnic group. A high value indicates white while a low score indicates Negro and Puerto Rican.
6	Area Graduated from High School	High value indicates graduation from a high school in another area or State.
7	Father's Occupational Level	High value indicates professional, managerial and sales occupations. Low value indicates unskilled or farm worker.
8	Father's Educational Level	High value indicates much education.
9	Mother's Educational Level	High value indicates much education.
10	Highest Degree Held	High value indicates higher degree.
11	Undergraduate Institution Attended	The item response categories were ranked by the magnitude of the

Variable Number	Title	Manner of Coding
		teacher's vertal score, assigning a high rank to a high verbal score. Each respondent was assigned the rank for the item response he chose. A high score indicates a high rank.
12	Highest Degree Offered by Undergraduate Institution	Same as variable 11.
13	Area of Undergraduate Institution	High value indicates institution is located in another area or State.
14	Percent of White Students at Undergraduate Institution	High value indicates many white students.
15	Ranking of Academic Level of Undergraduate Institution	High value indicates the teacher feels that his undergraduate institution has a high academic standing.
16	Credit Beyond Highest Degree	High value indicates many credits beyond highest degree.
17	Years of Teaching Experience	High value indicates many years experience.
18	Years of Teaching in Present School	High value indicates many years experience in present school.
19	Certification	High value indicates permanent or long-term certification.
20	Assignment to Present School District	A value of one was assigned if they chose their present school, zero if they were placed in the school.
21	Attend Summer Institutes	High value indicates teacher has attended many NSF-NDEA-ESEA sponsored institutes.

Variable Number	Title	Manner of Coding
22	Attend Summer Institutes for teaching culturally disadvantaged	High value indicates teacher has attended 2 or more summer institutes.
23	Annual Teaching Salary	High value indicates a high salary.
24	Student Effort	High value indicates teacher feels students in present school try hard to achieve.
25	Student Ability	High value indicates teacher feels students in present school are of high academic ability.
26	Employment Status	High value indicates a tenured appointment.
27	Member National Honorary	One for yes, zero for no.
28	Re-enter Teaching	High value indicates the teacher would re-enter teaching as a profession.
29	Prefer Other School	High value indicates the teacher would prefer to teach in some other school.
30	Type High School Preferred	High value indicates the teacher would prefer an academic school with strong emphasis on college preparation. Low value indicates preference for trade or vocational school.
31	Socio-Economic Background of Student Preferred	High value indicates a preference for children of professional and white collar workers. Low value indicates preference for children of blue collar and farm workers.

Variable Number	Title	Manner of Coding
32	Preference for Student Ability	High value indicates preference for a high ability group.
33	School Reputation	High value indicates that the teacher feels his present school is highly regarded by other teachers not in the school.
34	Percent White of Teacher's Students	A high value indicates that the teacher has a high percentage of white students in his classes.
35	School Problems: External	A high value indicates many school problems that are external to the school such as: poor home environment of students; students are poorly fed and clothed; parents put too much pressure on the students for grades, etc.
36	School Problems: Internal	A high value indicates many school problems that are internal to the school such as: racial tension; excessive emphasis on athletics; excessive competition for grades; excessive student absences, etc.
37	Member of Teachers Associations	A high value indicates that the teacher is an officer or an active participant in a teachers association. A low value indicates non-membership.
38	Reads Educational Journals	A high value indicates the teacher regularly reads 3 or more journals. A low value indicates the teacher is not a regular journal reader.

Variable Number	Title	Manner of Coding
39	Teach Until Retirement	A high value indicates the teacher expects to remain in full-time public education until retirement.
40	Hours a Day Spent in Class Preparation	A high value indicates that the teacher spends 4 or more hours a day, outside of the regular working day, in preparation for teaching or counseling. A low value indicates no preparation.
41	Hours a Day Spent in Classroom Teaching	The item response categories were ranked by the magnitude of their verbal score, assigning a high rank to a high verbal score. Each respondent was assigned the rank for the item response he chose. A high score indicates a high rank.
42	Average Class Size	Teachers who had an average class size of approximately 12 to 35 students were assigned a one; all larger and smaller class sizes were scored zero (teachers were required to grid their answer to this question and this procedure introduced errors). Teachers who taught less than 3 hours a day were omitted from the analysis of this variable.
43	Hours a Day Spent in Counseling	A high value indicates that the teacher spends many hours in addition to his official assignment, in counseling. Teachers who taught less than 3 hours a day were omitted from the analysis of this variable.

Variable Number	Title	Manner of Coding
44	Ability Grouping	A high value indicates that the teacher has all high ability groups. An intermediate value indicates mixed ability groups and a low value, low ability groups.
45	Contextual Vocabulary Score	A high value indicates many items correct.

These variables were intercorrelated using a computer routine that allows for an unequal number of observations on each variable. There are two occasions when an unequal number of observations on a particular variable or item may occur. The first is when a question is answered twice and consequently the missing data routine eliminates both responses. An example of this is when an individual changed his answer and either forgot to erase or inadequately erased his first response. A second occasion is when an item alternative or a non-response group was purposely eliminated. Thus, those teachers who did not indicate their sex or age were not assigned a non-response value but were rather deleted from the computation of the correlation of these variables with the other variables (see Appendix A for the alternatives that were eliminated). The means, standard deviations and intercorrelations for these variables are given in Appendix B. The school sampling weights were used to reproduce teacher population values. There are approximately 36,000 ELEMENTARY and 24,000 SECONDARY teachers in the sample. When inflated by the sampling weights an estimate of approximately 830,000 ELEMENTARY and 556,000 SECONDARY teachers is obtained.

DISCUSSION OF SOME SELECTED CORRELATIONS

Correlates of Teacher Salary

Teachers salaries have been and continue to be of considerable interest. Some investigators have focused on increases in teachers salaries as a means of attracting and retaining more capable people into the teaching profession. Therefore it may be useful to focus on correlates of other items from the teacher questionnaire with teaching salary (variable 23 in the List of Variables). Table 1 presents these correlations for both elementary and secondary teachers. As a rule of thumb only correlations of .20 or greater are presented (except where a comparison of elementary and secondary teachers requires that a lower value be presented).

TABLE 1.-Correlates of Teachers Salary

VARIABLE NUMBER	TITLE	ZERO-ORDER CORRELATIONS ELEMENTARY	SECONDARY
2	Age	.28	.41
4	Type/Size Community Spent Most of Life	.20	.22
10	Highest Degree Held	.34	.45
16	Number of Credits Beyond Highest Degree	.36	.40
17	Years of Teaching Experience	.32	.47
18	Years of Teaching in Present School	.25	.39
19	Certification	.33	.33
26	Employment Status	.42	.46
39	Teach Until Retirement	.19	.30

Inspection of Table 1 shows that the same variables are correlated with salary levels for both elementary and secondary teachers but that the correlations tend to be somewhat higher in almost every case for the secondary teachers. These variables are the ones that one would expect to be related to salary levels. Thus, the higher salaried teachers tend to have more teaching experience (variable 17), are older (2), have a higher degree (10) and/or credits beyond a higher degree (16), have achieved certification (19) and tenured employment status (26), plan to stay in teaching until retirement (39) and have taught many years in their present school (18). The relationship of variable 4 to salary suggests that the teachers with a more urban background receive higher salaries because they teach in urban and suburban schools where the salary schedule is higher than in rural and small town school systems.

CORRELATES OF PERCENT OF WHITE STUDENTS IN TEACHERS CLASS

A number of studies concerned with the effects of integration have focused on the percent white or racial mix of a school. Some investigators have expressed the concern that even though a school may be integrated the classrooms may be segregated. It is of interest therefore to see what other items from the teacher questionnaire correlate with item 43, which is a measure of classroom integration. As a rule of thumb correlations of .20 or greater were selected for discussion and are presented in Table 2.

TABLE 2.-Correlates of Percent of White Students in Teachers Class

VARIABLE NUMBER	TITLE	ZERO-ORDER CORRELATIONS ELEMENTARY	SECONDARY
5	Racial-Ethnic Differences on Vocabulary Test	.65	.61
14	Percent of White Students at Teachers Undergraduate Institution	.61	.60
24	Student Effort	.28	.26
25	Student Ability	.31	.26
35	School Problems: External	-.30	-.22
36	School Problems: Internal	-.33	-.24
45	Score on Vocabulary Test	.29	.25

Table 2 shows that the same variables correlate with percent of white students in the class for both elementary and secondary teachers and that the correlations are of approximately similar magnitudes. Inspection of Table 2 reveals that white teachers tend to teach predominantly white classes (5), white teachers attended undergraduate institutions that were predominantly white (14) and that those teachers who teach predominantly

white students obtain higher vocabulary test scores than do teachers of non-whites (45). Teachers of predominantly white students in contrast to teachers of non-whites, feel that their students try harder in school (24), have greater academic ability (25) and have fewer school problems, both internal and external (35, 36).

FACTOR ANALYSES-PROCEDURES AND RESULTS

Procedures

The analytic techniques used in all the factor analyses were the Principal Components method of factor extraction and the Varimax method of factor rotation (see Horst in the List of References for a discussion of these techniques, especially pages 156 and 418 respectively and also Kaiser). In the terminology of matrix algebra a Principal Component is similar to an eigenvector, characteristic vector or latent vector and the amount of variance accounted for by a factor is similar to an eigen value, characteristic root or latent root. The desirable feature of the Principal Components method is that it maximizes the amount of variance taken out by each factor or in other words it takes out the roots in descending order of magnitude. The factors (or vectors) obtained from a Principal Components analysis are usually not meaningful and consequently the Varimax technique is used to rotate the factors into a position which <u>may</u> be more meaningful. Computationally, the Varimax technique attempts to maximize the high and low factor weights (sometimes called factor loadings or vector coefficients) so that variables that have high weights for a factor can be thought of as being related to one another and hence forming a clear grouping while those that have low (or near zero weights) belong in some other grouping.

As mentioned earlier, the philosophy adhered to in using factor analysis was that meaningful groupings of variables would be sought. Initially certain variables were excluded from the factor analyses because it was felt that they were more meaningfully kept as separate variables or that they would perturb what might otherwise be a meaningful solution. Thus, the variable of sex (1), race (5), credits beyond highest degree (16), and vocabulary test score (45) were kept out of the factor analyses. In addition a number of different subsets of variables that were considered to be meaningful on the basis of a priori considerations were each subjected to a Principal Components analysis and Varimax rotation. For example, it was thought that such variables as Father's Education, Mother's Education, and Father's Occupation might form an index of socio-economic background. These preliminary analyses showed that although some of the priori groupings did form a clear and single factor many of them did not. However, the full set of variables did tend to form meaningful factors with the exception of a few variables. Thus the variables of percent white in the student body of the undergraduate institution attended (14) and percent of students in the class that are white (34) and average class size (42)

TABLE 3.-Amount and Cumulative Percent of Variance Accounted for by Principal Components for Elementary and Secondary Teachers

ELEMENTARY			SECONDARY		
INDEX	ROOT	PER CENT	INDEX	ROOT	PER CENT
1	3.9914	11.09	1	4.2339	11.76
2	3.0018	19.43	2	3.0077	20.12
3	2.3269	25.89	3	2.3518	26.65
4	2.1266	31.80	4	2.1435	32.60
5	1.5679	36.15	5	1.6170	37.09
6	1.4087	40.06	6	1.5384	41.37
7	1.2868	43.64	7	1.3420	45.10
8	1.2284	47.05	8	1.1424	48.27
9	1.0598	50.00	9	1.0789	51.27
10	1.0248	52.84	10	1.0290	54.12
11	1.0057	55.64	11	0.9976	56.90
12	0.9760	58.35	12	0.9737	59.60
13	0.9293	60.93	13	0.9235	62.16
14	0.9038	63.44	14	0.8977	64.66
15	0.8924	65.92	15	0.8717	67.08
16	0.8786	68.36	16	0.8633	69.48
17	0.8611	70.75	17	0.8393	71.81
18	0.8409	73.09	18	0.8096	74.06
19	0.8185	75.36	19	0.7742	76.21
20	0.7899	77.55	20	0.7499	78.29
21	0.7871	79.74	21	0.7360	80.34
22	0.7191	81.74	22	0.7002	82.28
23	0.7018	83.69	23	0.6830	84.18
24	0.6742	85.56	24	0.6749	86.05
25	0.6438	87.35	25	0.6393	87.83
26	0.6066	89.03	26	0.6267	89.57
27	0.5892	90.67	27	0.5604	91.13
28	0.5799	92.28	28	0.5350	92.61
29	0.5338	93.76	29	0.5179	94.05
30	0.4442	95.00	30	0.4319	95.25
31	0.4073	96.13	31	0.3953	96.35
32	0.3910	97.22	32	0.3787	97.40
33	0.3606	98.22	33	0.3227	98.30
34	0.2901	99.02	34	0.2960	99.12
35	0.1961	99.57	35	0.1766	99.61
36	0.1557	100.00	36	0.1404	100.00

tended to form an unwanted racial differences factor (apparently non-white teachers have more atypical or non-average class size than do white teachers). Similarly, hours spent in classroom teaching (41) and assignment to present school district (20) tended to form a factor along with size of community (4) and salary (23). This was an undesired factor since it reflected mainly rural-urban differences in school systems. As a consequence of these preliminary analyses variables 20, 34, 41 and 42 were eliminated from further analyses.

The remaining 36 variables were subjected to a Principal Component analysis. The magnitude of the roots (amount of variance accounted for by each factor) and the cumulative percent of variance accounted for by each factor are given for both ELEMENTARY and SECONDARY groups in Table 3. The percent of variance is computed by utilizing a theorem from matrix theory which states that the trace of a matrix (viz the sum of its diagonal elements) is equal to the sum of its roots. Since the diagonal elements of a correlation matrix are equal to one, the sum of its diagonal elements is equal to the number of variables in the matrix. Hence, by dividing each root by the number of variables, in this case 36, one obtains the percent of variance accounted for by the factor associated with that root.

Results

For each group, those factors that had a root of one or greater were subjected to a Varimax rotation. These rotated factors are given in Appendix C.

Factors are interpreted by applying a suitable label to the variables that have a moderate to high weight on the factor on the basis of what they appear to have in common. Where a variable has a moderate weight on more than one factor it is considered to belong on that factor for which its' membership is most meaningful. Thus, a variable belongs to one and only one factor.

If a variable were allowed to belong to more than one factor, the correlations of the factor scores would be unduly highly correlated because the same variable was entering into both factors. The analyses showed that the same factors could be obtained for both ELEMENTARY and SECONDARY teachers although the factor weights differed slightly in some instances. Some of the factors were discarded because they involved only one or two variables or, because the variable clearly belonged on another factor.

An interpretation of each factor is given below. Variables that are not listed on the factor are considered to have a zero weight on that factor. The weights that are used and presented in the following tables have been taken directly from the Varimax solution.

TABLE 4.- Teacher Index I: Experience

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
2	Age	.86	.85
17	Number of Years Teaching	.88	.88
18	Number of Years Teaching in This School	.79	.82
39	Expects to Remain in Teaching Until Retirement	.52	.39*

*The asterisk for the SECONDARY group indicates that variable had a higher weight on a small factor that was later discarded.

Hereafter the interpreted factors will be regarded as indices. The first index, given in Table 4, is labeled "Experience". The variable with the highest weight is Number of Years Teaching Experience, with Age and Number of Years in this School running second and third respectively. Variable 39, Expects to Remain in Teaching Until Retirement appears to be a consequence of being older and having more years teaching experience.

TABLE 5.- Teacher Index II: Teaching Condition

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
24	Student Effort	.81	.82
25	Student Ability	.81	.81
28	Re-enter Teaching	.18*	.15*
29	Prefer Other School	-.39	-.44
33	School Reputation	.64	.72
35	School Problems: External	-.64	-.55
36	School Problems: Internal	-.69	-.67
44	Ability Grouping Taught	.29**	.16**

*The asterisk on variable 28 indicates that it had a high weight on a small factor that was later discarded.

**The double asterisk on variable 44 indicates that it had a higher weight on another index labeled "Teacher Preference" but it was felt that it more meaningfully belonged on the Teaching (Conditions) index.

This index has been labeled "Teaching Conditions" since almost all of the variables are concerned with the teachers view of his current teaching relationship with the student body. A teacher who has a high score on this index feels that the students in his school try hard to achieve (24), are of high academic ability (24), that the school has few problems (35, 36) and a good reputation with other teachers not employed in that school (33), that he would not prefer to teach in some other school (29), that he would re-enter teaching as a profession if he had it to do over again (28) and that he is currently teaching high ability students (44).

TABLE 6.- Teacher Index III: Localism of Background

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
3	Area Spent Most of Life	.89	.89
6	Area Graduated High School	.91	.91
13	Area of Undergraduate Institution	.77	.78

Index III is clearly related to the area in which the teacher has spent most of his years prior to completion of college. A teacher who has a high score on this index has moved from one area to another while a teacher with low mobility has a low index score and consequently the label "Localism of Background" has been attached to this index.

TABLE 7.- Teacher Index IV: Socio-Economic Background

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
4	Type/Size of Community Spent Most of Life	.27**	.11**
7	Father's Occupational Level	.73	.75
8	Father's Educational Level	.84	.86
9	Mother's Educational Level	.76	.75

**The double asterisk on variable 4 indicates that this variable had a higher weight on an index labeled "Training" but was considered to be more interpretable on this index.

Socio-economic status is usually conceived of as a dimension which differentiates people in a number of ways. People of high socio-economic status are usually thought to have more money, more education, different child rearing practices and outlook on life than their lower socio-economic status counterparts. Since this index has some of the major variables that are considered indicators of socio-economic status it is called Socio-Economic Background. The word background rather than status is used to indicate that this is not the teacher's current socio-economic status, for he now has educational, occupational and income levels that may be quite different from his parents, but is rather part of his social origins.

TABLE 8.- Teacher Index V: Training

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
10	Highest Degree Held	.66	.66
19	Certification	.54	.50
23	Salary	.76	.72
26	Tenure	.54	.57

A teacher with a high score on this index has a high salary (23), a higher degree (10), certification (19) and Tenure (26). Since Salary, Certification and Tenure are partly determined by the level of the degree held and partly by teaching experience this index tends to encompass training gained through formal education and through informal education such as in-service training. In view of these considerations this index has been labeled "Training". One would expect and will later see that this index is somewhat correlated with Index I: "Experience."

TABLE 9.- Teacher Index VI: College Attended

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
11	Undergraduate Institution Attended	.71	.50
12	Highest Degree Offered by Teacher's Undergraduate Institution	.73	.66
15	Teacher's Ranking of Academic Standing of Undergraduate Institution	.59	.71

The variables in this index all refer to various aspects of the teacher's undergraduate institution. Thus variable 11 is a rank assigned to each type of institution on the basis of the vocabulary score obtained by their alumni who went into teaching. Usually the high ranking schools are the public and private universities with the private junior colleges and teachers colleges ranking lowest. Variable 12 refers to the highest degree offered by the Teacher's Undergraduate Institution while variable 15 is the Teacher's Ranking of the Academic Standing of his Undergraduate Institution. Consequently this index is labeled "College Attended".

TABLE 10.- Teacher Index VII: Teaching Related Activities

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
22	Attends Summer Institutes for Teaching the Culturally Disadvantaged	.16*	.50
37	Member of Teachers Associations	.22*	.18*
38	Reads Educational Journals	.46	.37*
40	Hours a Day Spent in Classroom Preparation	.71	.60
43	Hours a Day Spent in Counseling (in addition to his official assignment)	.59	.64

*The variables with asterisks indicate that they had a higher weight on other small factors which were discarded.

All of these variables refer to the preparation for teaching (40), the maintenance of teaching skills (22, 37, 38), or the performance of certain teacher related obligations (43), and consequently this index is labeled Teaching Related Activities.

TABLE 11.- Teacher Index VIII: Preference for Student Ability Level

VARIABLE NUMBER	TITLE	ELEMENTARY WEIGHT	SECONDARY WEIGHT
30	Type of High School Preferred	.65	.68
31	Socio-Economic Background of Students	.48	.39
32	Preference for High Ability Students	.68	.66

A teacher with a high score on this index prefers an academic school with a strong emphasis on college preparation (30), prefers children of white collar and professional workers (31) and prefers to teach a high ability group (32). Since all these variables are in part or whole related to the ability level of the students the index has been labeled "Preference for Student Ability Level."

The three remaining factors from the ELEMENTARY and two remaining factors from the SECONDARY groups were discarded either because the few variables that had high weights on them were already used on other factors or because there was only one or two variables on the factor and these could be more meaningfully kept as single variables rather than being weighted and given the status of an index. Of the thirty-six variables that were factor analyzed only two failed to be included in an index. These are variables 21, attends NSF-NDEA-ESEA Sponsored Summer Institutes, and Variable 27, teacher is a Member of a National Honorary such as Phi Beta Kappa.

INDEX SCORE INTERCORRELATIONS

Scores for each ELEMENTARY teacher on each index were computed and then intercorrelated. Each variable was first standardized to a mean of zero and a standard deviation of one (using the means and standard deviations from Appendix B to subtract out and divide by, respectively). The standardized variables for each index were then multiplied by their respective ELEMENTARY weights and summed and then intercorrelated. These intercorrelations are given in Table 12 (and also in Appendix D).

TABLE 12.- Index Intercorrelations for Elementary Teachers

		I	II	III	IV	V	VI	VII	VIII
I	Experience	1.00	.06	-.15	-.30	.33	-.16	.12	-.08
II	Teaching Conditions	.06	1.00	.00	.06	.03	.03	-.01	.10
III	Localism	-.15	.00	1.00	.09	.01	.09	.03	.01
IV	Socio-Economic Background	-.30	.06	.09	1.00	.00	.19	-.04	.15
V	Training	.33	.03	.01	.00	1.00	.07	.08	.04
VI	College Attended	-.16	.03	.09	.19	.07	1.00	-.02	.12
VII	Activities	.12	-.01	.03	-.04	.08	-.02	1.00	-.10
VIII	Preference	-.08	.10	.01	.15	.04	.12	-.10	1.00

Inspection of Table 12 shows that the index intercorrelations are what one might expect on the basis of the variables that comprise them. Thus, one would expect that the older, more experienced teachers (I) would tend to be more local in their background (i.e. moved around less), would have lower socio-economic origins (IV), would have more training (V), went to a less highly ranked college (VI) and engage in more teaching related activities (VIII) than their younger, less experienced counterparts.

"Teaching Conditions" (II) is virtually uncorrelated with all the other indexes except "Preference for High Ability Students" (VIII). This is meaningful in that the teacher who is in a favorable teaching situation tends also to prefer high ability students.

The negative relation of "Socio-Economic Background" (IV) to "Experience" (I) probably is due to an historical trend. Since Fathers and Mothers Educational Levels are used to define Index IV and since there has been a general increase in the level of education in the adult population in recent years, one would expect the younger teachers to have more highly educated parents than the older teachers. "Socio-Economic Background" (IV) is also related to rank of "College Attended" (VI) and "Preference for High Ability Students" (VIII).

The objective of this analysis was to reduce the number of variables in a meaningful way. This has been accomplished and the same time the index scores have low intercorrelations. However--when the index scores are correlated these correlations can be given a meaningful interpretation.

CORRELATIONS OF ELEMENTARY TEACHER INDICES WITH VARIABLES ELIMINATED FROM THE ANALYSIS AND SPECIAL STUDIES VARIABLES

Nine of the forty-five original variables were eliminated from the factor analyses on the basis of the preliminary analyses or because they were intended to be kept separate in order to perform special studies and analyses later on. Also, two variables that were included in the analyses did not have a substantial weight on any of the indices. These eliminated variables were correlated with the indices. In addition, some special variables also used in the indices were selected out to be used in special studies. Some of these special variables are sex, age, race, salary, verbal score etc. These correlations are given in Table 13 as well as in Appendix D (along with the intercorrelations of these variables).

TABLE 13.-Correlations of Elementary Teacher Indices with Selected Other Variables

VARIABLE NUMBER	TITLE	Index Number and Title: I EXPERIENCE	II TEACHING COND.	III LOCALISM	IV SOCIO-ECON BACKGROUND	V TRAINING	VI COLLEGE ATTENDED	VII ACTIVITIES	VIII PREFERENCE
1	Sex	.14	.07	-.04	.03	-.09	-.03	.00	-.02
2	Age	.89	.06	-.09	-.27	.26	-.12	.10	.02
5	Racial-Ethnic Difference on Vocabulary Test	-.02	.22	.05	.16	.01	.19	-.18	.16
14	Percent White at Undergraduate Institution	.02	.19	.05	.13	.01	.16	-.18	.15
16	Credits Beyond Highest Degree	.20	-.05	.06	.02	.28	.08	.11	-.01
20	Assignment to Present School District	.09	.05	-.03	-.07	-.03	.01	-.01	.00
21	Attends NSF-NDEA-ESEA Summer Institutes	.03	-.04	-.01	-.02	.05	.00	.09	-.02
23	Salary	.31	.02	.08	.02	.79	.08	.02	.03
27	Member National Honorary	.03	.03	.04	.05	.09	.05	.08	.06
34	Percent White of Teacher's Students	.00	.38	.04	.09	-.04	.10	-.12	.16
41	Hours/Day Spent in Classroom Teaching	-.08	-.01	.00	.08	.07	.04	-.10	.02
42	Average Class Size	-.12	.06	.03	.09	.01	.06	-.03	.07
45	Contextual Vocabulary Score	-.07	.09	.06	.20	.12	.19	-.13	.16

Inspection of Table 13 shows that variables that are used to form part of an index are highly correlated with that index. Thus, it to be expected that Age (2) would be highly correlated with the "Experience" index (I) and Salary (23) with the "Training" index (V). As a rule of thumb correlations of .10 or less will not be discussed. Sex (1) is related slightly to "Experience" (I) which indicates that slightly more of the older, more experienced teachers are women than are their younger counterparts. Since Age (2) is used in the "Experience" index (I) it will be correlated with other indices that are also correlated with the Experience index (I). The correlations that are of major interest are those between the racial difference variables (5, 14, 34) and the indices. Thus, Racial-Ethnic Differences (5), Percent of White Students at the Teachers Undergraduate Institution (14) and, Percent of Teachers Students that are White (34) are all correlated with the indices of "Teaching Situation" (II), "Socio-Economic Background" (IV), "College Attended" (VI), "Teaching Related Activities" (VII) and "Preference for High Ability Students" (VIII). What these correlations indicate is that white teachers tend to teach in predominantly white institutions (see Table 2) which they consider to be a more favorable Teaching Condition" (II), white teachers have a higher "Socio-Economic Background" (IV) than their non-white counterparts, white teachers tended to attend higher ranked undergraduate institutions (VI) and are less involved in "Teaching Related Activities (VII) than their non-white counterparts. Also white teachers tend to prefer higher ability students who in turn happen to be predominantly white (see Coleman in the List of References for documentation of this point).

Still other meaningful correlations are between variable 16, Credits Beyond Highest Degree and "Experience" (I), "Training" (V) and "Teaching Related Activities" (VII). Average Class Size (42) is negatively related to "Experience" (I) which indicates that the older, more experienced teachers tend to have larger and smaller classes than do the younger teachers. The correlations of the contextual Vocabulary Score (45) with "Socio-Economic Background" (IV), "Training" (V), "College Attended" (VI), "Activities" (VII) and "Preference" (VII) indicates that the higher scoring teachers tend to have a higher Socio-Economic Background, more Training, attended a higher ranking college, are less heavily involved in Teaching Related Activities and have a greater Preference for High Ability students than do the lower scoring teachers.

CONCLUSIONS

This study attempted to reduce the number of items from the Educational Opportunities Survey Teacher Questionnaire in an empirically meaningful way, so that the volume and complexity of later analyses could be reduced. In order to accomplish this objective 45 variables from the teacher

questionnaire were first intercorrelated and then factor analyzed. Separate analyses were run for ELEMENTARY and SECONDARY teachers.

Some of the more salient correlational results are that: age, size of community in which the teacher spent most of his life, highest degree held, number of credits beyond highest degree, years of teaching experience, years teaching in present school, certification, employment status and plans to teach until retirement are moderately correlated with the teachers salary for both elementary and secondary teachers. Correlational analysis also showed that: racial-ethnic differences, percent of white students at the teacher's undergraduate institution, teacher's rating of student effort and academic ability, few number of school problems cited and teacher's score on a vocabulary test are moderately related to the percent of white students in the teacher's class for both ELEMENTARY and SECONDARY teachers.

Principal Components analyses of the intercorrelations and Varimax rotations of the factors yielded eight meaningful factors that were highly similar for both ELEMENTARY and SECONDARY teachers. The factors were interpreted and given the status of indices. The indices and the weights were compared for both groups of teachers. These weights are so similar that it is recommended that a single set of weights be used to obtain index scores for both groups. The weights for elementary teachers are suggested as the appropriate set.

The indices and their interpretive titles are:

I Experience

II Teaching Conditions

III Localism of Background

IV Socio-Economic Background

V Training

VI College Attended

VII Teaching Related Activities

VIII Preference for Student Ability Level

Index scores were computed and intercorrelated for ELEMENTARY teachers. These correlations were low in magnitude and could be meaningfully interpreted.

Correlations of other variables with the indices showed that: racial-ethnic differences, percent of white students at the teachers undergraduate institution and percent of teacher's students that are white were correlated with the indices of "Teaching Conditions" (II), "Socio-Economic Background" (IV), "College Attended" (VI), "Teaching Related Activities" (VII) and "Preference for High Ability Students" (VIII).

Similar analyses will be forthcoming for students and principals.

List of References Cited

Coleman, James S., et al., Equality of Educational Opportunity, National Center for Educational Statistics, U.S. Government Printing Office, Washington: 1966, Catalog No. FS5.38001 and Supplement.

Horst, Paul, Factor Analysis of Data Matrices. Holt, Rhinehart and Winston, Inc.: 1965.

Kaiser, Henry F. "The Varimax Criterion for Analytic Rotation in Factor Analysis" Psychometrika, 23, 187-200 (1958).

Mayeske, G.W., Weinfeld, F.D., and Beaton, A.E., Jr., Item Response Analyses of the Educational Opportunities Survey Teacher Questionnaire. Technical Note Number 32, Division of Operations Analysis, National Center for Educational Statistics, U.S. Office of Education, May, 1967.

APPENDIX A

Coding of Items From the Teacher Questionnaire for Elementary (K-8) and Secondary (9-12) Teachers

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
1	1	A	0	0
		B	1	1
		NR*	OMIT	OMIT
2	2	A	22	22
		B	30	30
		C	40	40
		D	50	50
		E	60	60
		F	67	67
		NR	OMIT	OMIT
3	3	A	1	1
		B	2	2
		C	3	3
		D	0	0
		E	0	0
		F	0	0
		G	0	0
		NR	0	0

*NR Indicates Non-Response

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
4**	4	A	1	1
		B	2	2
		C	3	3
		D	4	2
		E	2	4
		F	5	5
		G	5	5
		H	6	6
		NR	0	0
5**	5	A	41	41
		B	52	51
		C	47	47
		D	48	48
		E	42	43
	6	A	39	45
		B	44	44
		C	-	-
		NR	43	42
6	7	A	1	1
		B	2	2
		C	3	3
		D	0	0
		E	0	0
		NR	0	0

** Indicates Item Was Coded Using Average Verbal Score

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
7**	8	A	8	8
		B	12	12
		C	9	9
		D	6	5
		E	11	10
		F	5	6
		G	1	2
		I	10	11
		J	7	7
		K	3	1
		NR	2	3
8	9	A	1	1
		B	2	2
		C	3	3
		D	4	4
		E	5	5
		F	6	6
		G	7	7
		H	8	8
		I	1	1
		NR	0	0

** Indicates Item Was Coded Using Average Verbal Score

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNIARE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
9	10	A	1	1
		B	2	2
		C	3	3
		D	4	4
		E	5	5
		F	6	6
		G	7	7
		H	8	8
		I	1	1
		NR	0	0
10	11	A	1	1
		B	2	2
		C	3	3
		D	4	4
		E	5	5
		F	5	5
		NR	0	0
11**	13	A	2	2
		B	7	6
		C	5	5
		D	4	4
		E	6	7
		F	1	3
		G	3	1
		NR	0	0

**Indicates Item was Coded Using Average Verbal Score

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
12**	14	A	2	1
		B	1	2
		C	3	3
		D	2	3
		E	4	4
		NR	1	1
13	15	A	1	1
		B	2	2
		C	3	3
		D	0	0
		E	0	0
		F	0	0
		G	0	0
		NR	0	0
14	16	A	100	100
		B	95	95
		C	82	82
		C	62	62
		E	37	37
		F	17	17
		G	05	05
		H	00	00
		NR	99	90

** Indicates Item Was Coded Using Average Verbal Score

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNIARE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
15	23	A	95	95
		B	85	85
		C	75	75
		D	65	65
		E	55	55
		F	45	45
		G	35	35
		H	25	25
		I	15	15
		J	05	05
		NR	50	50
16	24	A	0	0
		B	5	5
		C	15	15
		D	25	25
		E	35	35
		NR	0	0
17	25	A	0.0	0.0
		B	1.5	1.5
		C	3.5	3.5
		D	7.0	7.0
		E	12.0	12.0
		F	17.0	17.0

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
17	25	G	24.0	24.0
		H	35.0	35.0
		NR	7.0	7.0
18	26	A	0.0	0.0
		B	1.5	1.5
		C	3.5	3.5
		D	7.0	7.0
		E	12.0	12.0
		F	17.0	17.0
		G	24.0	24.0
		H	35.0	35.0
		NR	3.5	3.5
19	28	A	0	0
		B	1	1
		C	2	2
		D	3	3
		NR	0	0
20	29	A	1	1
		B	0	0
		NR	0	0

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
21	30	A	0.0	0.0
		B	1.0	1.0
		C	2.5	2.5
		D	4.5	4.5
		NR	0.0	0.0
22	31	A	0	0
		B	1	1
		C	2	2
		NR	0	0
23	32	A	2.8	2.8
		B	3.5	3.5
		C	4.5	4.5
		D	5.5	5.5
		E	6.5	6.5
		F	7.5	7.5
		G	8.5	8.5
		H	9.5	9.5
		I	10.5	10.5
		NR	2.8	2.8
24	33	A	4	4
		B	3	3
		C	2	2

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
24	33	D	1	1
		E	0	0
		NR	0	0
25	34	A	4	4
		B	3	3
		C	2	2
		D	1	1
		E	0	0
		NR	0	0
26	35	A	2	2
		B	1	1
		C	0	0
		NR	0	0
27	36	A	1	1
		B	0	0
		NR	0	0
28	37	A	4	4
		B	3	3
		C	2	2
		D	1	1
		E	0	0
		NR	2	2

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
29	38	A	2	2
		B	1	1
		C	0	0
		NR	1	1
30	39	A	3	3
		B	2	2
		C	OMIT	OMIT
		D	0	0
		E	1	1
		NR	OMIT	OMIT
31	40	A	6	6
		B	5	5
		C	4	4
		D	3	3
		E	2	2
		F	1	1
		G	0	0
		NR	0	0
32	43	A	2	2
		B	1	1
		C	0	0
		D	OMIT	OMIT
		E	1	1
		NR	1	1

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
33	44	A	4	4
		B	3	3
		C	2	2
		D	1	1
		E	0	0
		F	2	2
		NR	2	2
34	45	A	.00	.00
		B	.05	.05
		C	.17	.17
		D	.37	.37
		E	.62	.62
		F	.82	.82
		G	.95	.95
		H	1.00	1.00
		NR	.90	.90
	47a through 47u	Score 1 for each yes response and 0 for a no or NR		
35	Create two variables as follows:			Sum the values for a, b, d, m, q.
36				Sum the values for c, e, f, g, h, i, j, k, l, n, o, p, r, s, t, u.

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
37	48	A	0	0
		B	3	3
		C	2	2
		D	1	1
		NR	0	0
38	49	A	0	0
		B	1	1
		C	2	2
		D	3	3
		NR	0	0
39	50	A	4	4
		B	3	3
		C	1	1
		D	0	0
		NR	2	2
40	51	A	0	0
		B	1	1
		C	2	2
		D	3	3
		E	4.5	4.5
		NR	0	0

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
41**	52	A	0	1
		B	1	3
		C	1	4
		D	2	6
		E	2	7
		F	3	5
		G	2	2
		NR	0	0
42	53*	15-34	1	-
		12-34	-	1
		0-14	0	-
		0-11	-	0
		35+	0	0
		NR	0	0
43	55*	A	0.0	0.0
		B	1.5	1.5
		C	4.0	4.0
		D	8.0	8.0
		E	11.5	11.5
		NR	OMIT	OMIT

**Indicates Item Was Coded Using Average Verbal Score

*See next page

APPENDIX A (continued)

VARIABLE NUMBER	ITEM NUMBER IN QUESTIONNAIRE	ITEM ALTERNATIVE	ELEMENTARY CODE	SECONDARY CODE
44	57	A	2	2
		B	0	0
		C	1	1
		D	1	1
		NR	1	1

APPENDIX B

Item Means, Standard Deviations and Intercorrelations from the Teacher Questionnaire for Elementary (K-8) and Secondary (9-12) Teachers

ELEMENTARY

The variable numbers and titles are as follows:

1. Sex
2. Age
3. Area Spent Most of Life
4. Type/Size of Community Spent Most of Life
5. Racial-Ethnic Difference on Contextual Vocabulary
6. Area Graduated from High School
7. Father's Occupational Level
8. Father's Educational Level
9. Mother's Educational Level
10. Highest Degree Held
11. Undergraduate Institution Attended
12. Highest Degree Offered by Undergraduate Institution
13. Area of Undergraduate Institution
14. Percent of White Students at Undergraduate Institution
15. Ranking of Academic Level of Undergraduate Institution
16. Credit Beyond Highest Degree
17. Years of Teaching Experience
18. Years of Teaching in Present School
19. Certification
20. Assignment to Present School District
21. Attend Summer Institutes
22. Attend Summer Institutes for Culturally Disadvantaged
23. Annual Teaching Salary
24. Student Effort
25. Student Ability
26. Employment Status
27. Member National Honorary
28. Re-enter Teaching
29. Prefer Other School
30. Type High School Preferred
31. Socio-Economic Background of Student Preferred
32. Preference for Student Ability
33. School Reputation
34. Percent White of Teacher's Students
35. School Problems: External
36. School Problems: Internal
37. Member of Teachers Association
38. Reads Educational Journals
39. Teach Until Retirement
40. Hours a Day Spent in Classroom Preparation
41. Hours a Day Spent in Classroom Teaching
42. Average Class Size
43. Hours a Day Spent in Counseling
44. Ability Grouping
45. Contextual Vocabulary Score

ALL VARIABLES

THE NUMBER OF OBSERVATIONS IS 830689.

VARIABLE	SUMS	SUMS OF SQUARES	MEAN	SIGMA(N)	SIGMA(N-1)
1	682483.3203	682483.3125	0.8216	0.3829	0.3829
2	32514020.7500	0.142047368E 10	39.1410	19.3407	19.3407
3	1498027.3438	3233814.7813	1.8039	0.8059	0.8059
4	2135627.4375	6976219.3750	2.5709	1.3374	1.3374
5	41734667.5000	0.210990068E 10	50.2410	9.9723	9.9723
6	1599224.0000	3604136.8438	1.9252	0.7952	0.7952
7	5877258.1250	48447427.5000	7.0752	2.4200	2.4200
8	2869433.0313	13648689.8750	3.4543	2.1210	2.1210
9	2990925.0313	13812408.7500	3.6005	1.9141	1.9141
10	2542182.0625	8109695.8125	3.0603	0.6301	0.6301
11	4700333.3125	27680462.5000	5.6584	1.1426	1.1426
12	2055345.6719	6312859.2500	2.4745	1.2150	1.2150
13	1726046.7500	3967522.8750	2.0779	0.6772	0.6772
14	66675404.5000	0.624311578E 10	80.2652	32.7580	32.7580
15	58719438.0000	0.456359658E 10	70.6877	22.2936	22.2936
16	9030485.6250	0.209524868E 09	10.8952	11.5553	11.5553
17	9991912.6250	0.216403908E 09	12.0285	10.7623	10.7623
18	5230032.5625	80215730.0000	6.2960	7.5449	7.5449
19	1984797.5469	5218928.8125	2.3893	0.7574	0.7574
20	388296.0742	388296.0820	0.4674	0.4989	0.4989
21	69294.0791	130059.3164	0.0834	0.3868	0.3868
22	147297.6152	198626.4531	0.1773	0.4557	0.4557
23	5131582.6250	33821681.5000	6.1775	1.5980	1.5980
24	1881628.5938	4901759.1875	2.2651	0.8775	0.8775
25	1864328.0938	4811394.4375	2.2443	0.8690	0.8690
26	1179347.7500	1904467.8750	1.4197	0.5263	0.5263
27	126760.3477	126760.3428	0.1526	0.3596	0.3596
28	2711825.3750	9738320.2500	3.2645	1.0324	1.0324
29	389235.4336	550443.1328	0.4686	0.6656	0.6656
30	2035782.2969	5449112.0625	2.4507	0.7441	0.7441
31	2586600.7500	10932707.1250	3.1138	1.8615	1.8615
32	1049877.8750	1558721.3281	1.2639	0.5283	0.5283
33	2276546.4688	6997303.4375	2.7406	0.9554	0.9554
34	594042.7891	561917.9688	0.7151	0.4063	0.4063
35	1268527.5156	3321398.0000	1.5271	1.2909	1.2909
36	2290462.3125	11876999.3750	2.7682	2.5759	2.5759
37	1092526.0469	1795724.5781	1.3152	0.6572	0.6572
38	1028933.2500	2019725.7656	1.2387	0.9472	0.9472
39	2374784.6563	8071517.7500	2.8588	1.2425	1.2425
40	1896626.5469	5394412.0625	2.2832	1.1318	1.1318
41	1947192.0781	4775957.9375	2.3441	0.5047	0.5047
42	546760.0938	546760.1016	0.6582	0.4743	0.4743
43	1174924.5781	4748269.5625	1.4144	1.9276	1.9276
44	796474.3906	861570.0625	0.9588	0.3433	0.3433
45	20713174.7500	0.533934428E 09	24.9349	4.5839	4.5839

CORRELATION MATRIX ALL VARIABLES

	1	2	3	4	5	6	7
1	1.000000	0.172889	-0.048920	-0.020430	-0.006146	-0.020814	0.017176
2	0.172889	1.000000	-0.147739	-0.123998	0.043469	-0.017780	-0.127772
3	-0.048920	-0.147739	1.000000	-0.037930	0.059669	0.796380	0.051557
4	-0.020430	-0.123998	-0.037930	1.000000	0.029074	-0.043519	0.294468
5	-0.006146	0.043469	0.059669	0.029074	1.000000	0.054091	0.196360
6	-0.020814	-0.017780	0.796380	-0.043519	0.054091	1.000000	0.037937
7	0.017176	-0.127772	0.051557	0.294468	0.196360	0.037937	1.000000
8	0.036051	-0.225279	0.093784	0.172299	0.122691	0.072281	0.492074
9	0.033931	-0.270971	0.119685	0.098477	0.086882	0.092409	0.334818
10	-0.140112	-0.063529	0.062880	0.103542	-0.080068	0.060265	0.048771
11	-0.023966	-0.118152	0.039748	0.099891	0.029475	0.034597	0.100563
12	-0.042875	-0.135232	0.078043	0.095536	0.192945	0.062804	0.110808
13	-0.021950	-0.034957	0.519799	-0.094223	0.015688	0.948183	0.013690
14	-0.011589	0.083780	0.050525	0.008264	0.820269	0.056336	0.163119
15	0.020394	0.050445	0.033325	0.065994	0.185716	0.031850	0.090315
16	-0.108065	0.225879	0.025861	0.079324	-0.015330	0.055759	0.042499
17	0.177327	0.806455	-0.189581	-0.149119	-0.019144	-0.082181	-0.155807
18	0.181203	0.585846	-0.256999	-0.085959	-0.039729	-0.154434	-0.099692
19	0.052864	0.293080	-0.110154	0.009764	-0.034925	-0.071842	-0.034142
20	-0.035794	0.098896	-0.043636	-0.096026	0.119952	-0.025740	-0.051600
21	-0.069588	0.018443	-0.012471	-0.014870	-0.084487	-0.003799	-0.026168
22	0.002963	0.095014	-0.004522	-0.018410	-0.132139	0.013568	-0.027168
23	-0.098202	0.275546	0.061895	0.196365	0.078944	0.099108	0.070884
24	0.035209	0.008567	-0.009471	0.005298	0.144704	-0.004505	0.053723
25	0.014004	0.002714	0.000032	-0.003125	0.126890	0.000110	0.032497
26	0.000592	0.258627	-0.077754	0.040804	0.023332	-0.033995	0.010237
27	0.016454	0.023262	0.040703	-0.002743	0.041065	0.049905	0.030972
28	0.142315	0.038338	-0.007845	0.000901	0.063930	0.002366	0.025096
29	-0.102242	-0.131159	0.073941	0.031238	-0.076327	0.042885	-0.003907
30	0.060550	-0.044279	-0.012813	0.075188	0.004277	-0.014175	0.044898
31	-0.003714	0.006904	-0.002649	0.080399	0.149309	0.005010	0.103638
32	-0.067297	-0.107966	0.031893	0.070538	0.100499	0.020123	0.085925
33	0.037292	0.079369	-0.028546	-0.018796	0.052623	-0.009904	0.004984
34	0.003464	0.040027	0.039079	-0.031288	0.047417	0.041142	0.107835
35	-0.057011	-0.049526	-0.026546	-0.017458	-0.219013	-0.021102	-0.041488
36	-0.059081	-0.035819	-0.011519	0.014310	-0.249788	-0.011180	-0.050293
37	-0.037257	0.167975	-0.036971	-0.106665	-0.061716	-0.011200	-0.070526
38	0.037099	0.214251	-0.002110	-0.052014	-0.164544	0.028226	-0.054704
39	-0.082743	0.489691	-0.107440	-0.119639	-0.111429	-0.033522	-0.167772
40	0.037942	-0.026720	0.031127	-0.031629	-0.103344	0.031371	-0.047500
41	-0.006495	-0.061391	-0.000322	0.125809	0.088049	-0.009068	0.086091
42	0.024952	-0.116431	0.034984	0.039797	0.140400	0.013595	0.062946
43	-0.043006	0.009981	0.014873	-0.018976	-0.096619	0.012895	-0.025357
44	0.001567	-0.005199	-0.004396	-0.013657	0.048440	0.000347	0.000328
45	0.026831	-0.011554	0.071687	0.127316	0.403338	0.040543	0.188393

CORRELATION MATRIX ALL VARIABLES

	8	9	10	11	12	13	14
1	0.036051	0.033931	-0.140112	-0.023966	-0.042674	-0.021950	-0.011589
2	-0.225279	-0.270971	-0.063529	-0.118152	-0.135231	-0.034937	0.083780
3	0.093784	0.119685	0.062800	0.039748	0.078043	0.519799	0.050525
4	0.172299	0.098477	0.105542	0.099891	0.095536	-0.096223	0.006264
5	0.122891	0.086882	-0.080067	0.024073	0.192945	0.015688	0.820269
6	0.072281	0.092409	0.060265	0.034597	0.062804	0.343183	0.036338
7	0.492074	0.334818	0.048771	0.100363	0.110808	0.013690	0.143119
8	1.000000	0.540303	0.049381	0.112347	0.116428	0.056913	0.096464
9	0.540303	1.000000	0.032020	0.099507	0.112906	0.072270	0.069596
10	0.049381	0.032020	1.000000	0.105445	0.072938	0.016883	-0.078584
11	0.112347	0.099507	0.105445	1.000000	0.319284	0.011365	0.002432
12	0.116428	0.112906	0.072938	0.319284	1.000000	0.069112	0.199316
13	0.056913	0.072270	0.016883	0.011365	0.069112	1.000000	0.026211
14	0.096464	0.069596	-0.078584	0.002432	0.199316	0.026211	1.000000
15	0.064886	0.045928	0.058347	0.147661	0.186845	0.032970	0.201998
16	-0.005376	-0.015404	0.078940	0.056813	0.011141	0.052084	-0.007432
17	-0.216258	-0.258091	-0.001922	-0.147296	-0.165419	-0.044163	0.019289
18	-0.158038	-0.195183	-0.015038	-0.119192	-0.138044	-0.098160	-0.010181
19	-0.072368	-0.086377	0.255540	-0.048294	-0.046118	-0.060317	-0.024784
20	-0.048433	-0.050070	-0.028933	-0.024261	0.021675	-0.013710	0.116875
21	-0.014205	-0.017088	0.063737	0.005547	-0.007427	-0.010408	-0.075942
22	-0.011723	-0.013238	0.033575	-0.011444	-0.014559	0.004670	-0.108398
23	-0.034171	-0.058459	0.336232	0.021434	0.048023	0.032457	0.082167
24	0.054688	0.039181	-0.005434	-0.005149	0.026473	0.000135	0.127213
25	0.039763	0.030189	0.010710	-0.012576	0.016382	0.005735	0.109628
26	-0.049262	-0.075407	0.107333	-0.039933	-0.034787	-0.043107	0.031926
27	0.047506	0.047920	0.129389	0.035793	0.039791	0.014132	0.044470
28	0.014673	0.010747	-0.047452	-0.019052	0.002044	-0.019200	0.059020
29	-0.000826	0.000932	0.047873	0.033082	0.013478	0.031257	-0.078427
30	0.081489	0.049908	-0.000318	0.036134	0.025064	-0.024042	0.009342
31	0.082621	0.057673	0.040781	0.091276	0.055745	-0.015698	0.146332
32	0.081965	0.059574	0.041256	0.072509	0.076527	0.010545	0.092079
33	0.015648	0.016981	0.028007	-0.019588	-0.009165	-0.018642	0.041737
34	0.083001	0.064695	-0.075117	0.009112	0.096244	0.024036	0.113169
35	-0.051522	-0.043968	0.021733	-0.009879	-0.039662	-0.018452	-0.209843
36	-0.039182	-0.048581	0.046597	0.006582	-0.022976	-0.029912	-0.218519
37	-0.041229	-0.044189	0.092721	-0.032836	-0.042940	0.010188	-0.093784
38	-0.042821	-0.043328	0.085956	-0.041672	-0.093657	0.027535	-0.155205
39	-0.214253	-0.207771	0.066927	-0.088271	-0.114445	-0.043116	-0.078337
40	0.000072	0.013400	-0.004959	-0.002399	0.000202	0.019744	-0.110376
41	0.043115	0.019614	-0.010317	0.019133	0.040128	-0.003430	0.066242
42	0.059701	0.068659	0.014036	0.039810	0.042124	0.023941	0.120667
43	-0.003828	0.006484	0.078787	0.002371	-0.007536	0.013033	-0.092821
44	0.013924	0.016070	-0.014647	0.001914	0.009854	0.004962	0.042779
45	0.133531	0.132270	0.050943	0.104098	0.131384	0.012224	0.371912

CORRELATION MATRIX ALL VARIABLES

	15	16	17	18	19	20	21
1	0.020394	-0.108065	0.177327	0.181203	0.052864	-0.033794	-0.049588
2	0.050445	0.225879	0.006655	0.585866	0.293080	0.098896	0.018443
3	0.033325	0.025841	-0.189581	-0.256999	-0.110154	-0.043636	-0.012471
4	0.065994	0.079324	-0.149119	-0.085959	0.009764	-0.096026	-0.014870
5	0.185716	-0.015330	-0.019144	-0.039729	-0.034925	0.119552	-0.084417
6	0.031850	0.055759	-0.082181	-0.154434	-0.071843	-0.025740	-0.003799
7	0.090325	0.042495	-0.155807	-0.099692	-0.034142	-0.031600	-0.026168
8	0.064886	-0.005376	-0.216258	-0.158038	-0.072368	-0.048433	-0.014205
9	0.045928	-0.015404	-0.258091	-0.195163	-0.086377	-0.050070	-0.017086
10	0.058347	0.078940	-0.001922	-0.015038	0.233540	-0.028933	0.043737
11	0.147661	0.056813	-0.147296	-0.119192	-0.048294	-0.024261	0.005547
12	0.186845	0.011141	-0.165419	-0.138066	-0.066118	0.021675	-0.007427
13	0.032970	0.052084	-0.044163	-0.098160	-0.080317	-0.013710	-0.010408
14	0.201998	-0.007432	0.019289	-0.010181	-0.024784	0.116875	-0.079942
15	1.000000	0.072106	0.021224	0.000052	0.024367	0.038931	-0.002785
16	0.072106	1.000000	0.186910	0.129359	0.127233	0.012105	0.100451
17	0.021224	0.186910	1.000000	0.712046	0.342272	0.070886	0.025270
18	0.000052	0.129359	0.712046	1.000000	0.281219	0.049531	0.027289
19	0.024367	0.127233	0.342272	0.281219	1.000000	0.017690	0.036732
20	0.038931	0.012105	0.070886	0.049531	0.017691	1.000000	0.007091
21	-0.002785	0.100451	0.025270	0.027289	0.036732	0.007091	1.000000
22	0.003823	0.119607	0.087743	0.043003	0.033520	-0.004632	0.102948
23	0.109306	0.355492	0.321227	0.249228	0.328489	-0.046742	0.025603
24	0.050280	-0.029604	0.013011	0.014347	0.035174	0.027636	-0.014570
25	0.029552	-0.041725	0.007334	0.009785	0.028687	0.037670	-0.008140
26	0.034990	0.164573	0.278115	0.281751	0.273046	-0.005403	0.020076
27	0.033058	0.035238	0.032086	0.025419	0.045804	0.009433	0.019845
28	0.030887	-0.049800	0.015996	0.008347	0.011004	0.018965	-0.029464
29	-0.017910	0.017949	-0.121422	-0.123841	-0.062917	-0.036468	0.030495
30	0.033121	-0.039895	-0.036026	-0.021454	-0.011423	-0.020710	-0.011612
31	0.057699	0.020106	0.003738	0.015845	0.021312	-0.000794	-0.015136
32	0.050353	0.008940	-0.100580	-0.068927	-0.006240	-0.001728	0.008862
33	0.037918	-0.029227	0.090734	0.073853	0.078353	0.095492	-0.000005
34	0.111330	-0.073817	0.000713	-0.018420	-0.017760	0.096309	-0.074903
35	-0.059747	0.017691	-0.025659	0.019176	-0.010360	-0.017992	0.041280
36	-0.051649	0.051121	-0.002120	0.022312	-0.000428	-0.023449	0.033024
37	-0.009619	0.085130	0.195175	0.171036	0.149905	0.041249	0.063147
38	0.000018	0.119480	0.215848	0.155846	0.138862	-0.016163	0.081291
39	0.007103	0.193822	0.437648	0.335314	0.220348	0.072263	0.054337
40	0.002010	0.016238	-0.032411	-0.051714	-0.037693	-0.024366	0.023112
41	0.024340	0.041808	-0.068523	-0.040374	-0.007979	-0.040482	-0.019773
42	0.031699	-0.037457	-0.111079	-0.080551	-0.023696	-0.024040	-0.033274
43	-0.013751	0.053937	0.037019	0.017140	0.029309	-0.000087	0.049593
44	-0.005890	-0.031066	0.014007	0.020342	0.010692	0.020976	-0.001779
45	0.154982	0.044912	-0.082893	-0.070205	0.009536	0.023428	-0.038977

CORRELATION MATRIX ALL VARIABLES

	22	23	24	25	26	27	28
1	0.002963	-0.090202	0.[illegible]709	0.014004	0.000592	0.016654	0.142315
2	0.095014	0.275546	0.008567	0.002714	0.258627	0.023262	0.038338
3	-0.004522	0.061895	-0.009471	0.000032	-0.077754	0.040703	-0.007845
4	-0.018410	0.196365	0.005298	-0.003125	0.040804	-0.002743	0.000901
5	-0.132139	0.078944	0.146704	0.126890	0.023331	0.041065	0.043930
6	0.013568	0.099108	-0.004505	0.000110	-0.033995	0.049905	0.002364
7	-0.027108	0.070886	0.093723	0.032697	0.010237	0.030972	0.029096
8	-0.011723	-0.034171	0.054688	0.039763	-0.049262	0.047506	0.014673
9	-0.013238	-0.058459	0.039181	0.030189	-0.077407	0.047020	0.010747
10	0.033575	0.336232	-0.005434	0.010710	0.107333	0.129389	-0.047432
11	-0.011666	0.021434	-0.005149	-0.012576	-0.039033	0.035793	-0.019052
12	-0.014559	0.048023	0.026673	0.016382	-0.034787	0.039791	0.002096
13	0.004670	0.032657	0.000135	0.003795	-0.043107	0.014132	-0.019200
14	-0.108398	0.082167	0.127213	0.109628	0.031926	0.044420	0.033020
15	0.003823	0.109506	0.050280	0.029552	0.034990	0.033058	0.030887
16	0.119607	0.355492	-0.029604	-0.041725	0.166573	0.035238	-0.049800
17	0.087743	0.321227	0.013011	0.007334	0.278115	0.032086	0.019996
18	0.043003	0.249228	0.014347	0.009755	0.281791	0.025419	0.008347
19	0.033520	0.328489	0.035174	0.028687	0.273066	0.045804	0.011054
20	-0.004632	-0.046742	0.027636	0.037670	-0.005403	0.009433	0.018965
21	0.102948	0.025603	-0.014570	-0.008140	0.020076	0.015845	-0.029464
22	1.000000	0.051194	-0.039110	-0.059738	0.040627	0.027017	0.026958
23	0.051194	1.000000	0.008640	-0.003741	0.423006	0.040951	-0.030467
24	-0.039110	0.008640	1.000000	0.699195	0.029939	0.026863	0.158839
25	-0.059738	-0.003741	0.699195	1.000000	0.010680	0.032662	0.098033
26	0.040627	0.423006	0.029939	0.010680	1.000000	0.018769	0.004382
27	0.027017	0.040951	0.026863	0.032662	0.018769	1.000000	0.008877
28	0.026958	-0.030467	0.158839	0.098033	0.004382	0.008877	1.000000
29	0.020942	-0.018536	-0.209441	-0.198109	-0.038655	0.010738	-0.164854
30	-0.016601	-0.018188	0.028104	0.024884	-0.003678	0.016169	0.050345
31	-0.042985	0.058936	0.045142	0.041745	0.027585	0.038798	-0.019494
32	-0.099149	0.018612	0.049764	0.038433	-0.001347	0.040361	-0.074471
33	-0.018882	0.001535	0.409619	0.454794	0.027036	0.045387	0.103820
34	-0.151574	-0.026299	0.284863	0.310135	0.009761	0.038744	0.054375
35	0.090155	-0.044248	-0.355826	-0.351001	-0.009403	-0.023935	-0.094380
36	0.106676	0.000411	-0.406022	-0.361589	-0.001985	-0.006261	-0.177922
37	0.064475	0.059[illegible]9	0.032017	0.026358	0.116440	0.044942	0.096654
38	0.121197	0.079652	0.039689	0.025794	0.104700	0.039481	0.060108
39	0.100830	0.186558	0.023768	0.015448	0.187882	0.018791	0.170758
40	0.055766	-0.062950	0.005527	0.013829	-0.039390	0.017457	0.034292
41	-0.035281	0.136420	0.004987	-0.013181	0.050722	-0.015019	0.001901
42	-0.062427	0.018818	0.032346	0.029141	-0.019581	0.002032	0.019319
43	0.109675	0.024727	-0.027275	-0.021029	0.008689	0.038847	0.003609
44	-0.068889	-0.022267	0.151002	0.142334	0.010280	0.013724	0.018547
45	-0.113720	0.158671	0.032783	0.030585	0.044481	0.079071	0.001817

CORRELATION MATRIX ALL VARIABLES

	29	30	31	32	33	34	35
1	-0.102242	0.060590	-0.003714	-0.067297	0.037292	0.003444	-0.057011
2	-0.131159	-0.044279	0.004904	-0.107986	0.079369	0.040027	-0.049574
3	0.073941	-0.012813	-0.002449	0.031893	-0.028546	0.030079	-0.026344
4	0.031238	0.075188	0.080399	0.070538	-0.018706	-0.031288	-0.017458
5	-0.076527	0.004277	0.149309	0.100499	0.052623	0.047417	-0.219013
6	0.042885	-0.014175	0.005010	0.020125	-0.009904	0.041142	-0.021102
7	-0.003907	0.086898	0.103638	0.085925	0.004984	0.107835	-0.041480
8	-0.000826	0.081489	0.082621	0.081965	0.013648	0.083001	-0.031522
9	0.000932	0.049908	0.057673	0.059574	0.016981	0.044695	-0.043948
10	0.047873	-0.000318	0.040781	0.061256	0.028007	-0.079117	0.021733
11	0.033882	0.036134	0.058276	0.072509	-0.019588	0.009112	-0.009079
12	0.013478	0.025046	0.055745	0.076527	-0.009165	0.098248	-0.039842
13	0.031257	-0.024042	-0.019698	0.010543	-0.018842	0.024054	-0.018452
14	-0.076427	0.009342	0.148332	0.092079	0.041737	0.413189	-0.209843
15	-0.017910	0.033121	0.057699	0.050353	0.037018	0.111330	-0.099747
16	0.017949	-0.039895	0.020104	0.008940	-0.029227	-0.078817	0.017491
17	-0.121422	-0.036026	0.003738	-0.100580	0.090734	0.000713	-0.029459
18	-0.123641	-0.021454	0.019845	-0.048927	0.073853	-0.018428	0.019174
19	-0.062917	-0.011423	0.021312	-0.006240	0.078353	-0.017760	-0.018360
20	-0.056468	-0.020710	-0.000794	-0.001728	0.035492	0.096309	-0.017992
21	0.030495	-0.011612	-0.015136	0.008842	-0.000005	-0.074983	0.041280
22	0.020942	-0.016401	-0.042985	-0.099149	-0.018862	-0.191374	0.090155
23	-0.018536	-0.018188	0.038936	0.018612	0.001539	-0.026299	-0.044248
24	-0.209441	0.028104	0.045142	0.049764	0.409619	0.304663	-0.359826
25	-0.198109	0.024886	0.041749	0.058433	0.484794	0.310135	-0.331001
26	-0.038655	-0.003678	0.027585	-0.001047	0.027036	0.009761	-0.009403
27	0.010738	0.016149	0.038798	0.040361	0.045387	0.038744	-0.023935
28	-0.164854	0.050345	-0.019494	-0.076471	0.103820	0.056375	-0.094380
29	1.000000	-0.002305	0.001952	0.060480	-0.268405	-0.120701	0.156876
30	-0.002305	1.000000	0.081072	0.160992	0.038346	0.019550	-0.030641
31	0.001952	0.081072	1.000000	0.199616	0.053244	0.126592	-0.092362
32	0.060480	0.160992	0.199616	1.000000	0.061057	0.108145	-0.046730
33	-0.268405	0.038346	0.053244	0.061057	1.000000	0.174588	-0.249906
34	-0.120701	0.019550	0.126592	0.108145	0.174588	1.000000	-0.301016
35	0.156876	-0.030641	-0.092362	-0.046730	-0.249906	-0.301016	1.000000
36	0.275761	-0.009684	-0.035343	-0.020622	-0.304769	-0.726223	0.976816
37	-0.034918	-0.043435	-0.018021	-0.021067	0.078730	-0.010773	0.015340
38	-0.022535	-0.026890	-0.030525	-0.049832	0.083467	-0.096444	0.005847
39	-0.107818	-0.046897	-0.045092	-0.090944	0.084580	-0.072693	0.020211
40	-0.000825	-0.005415	-0.077153	-0.032487	0.044259	-0.066219	0.024441
41	-0.002739	-0.003355	0.038794	-0.016735	-0.039144	0.020244	-0.022173
42	-0.012913	-0.000215	0.031968	0.070997	-0.008570	0.110571	-0.044133
43	0.030250	-0.012533	-0.030544	-0.032817	0.007245	-0.088182	0.074887
44	-0.039879	0.021435	0.032854	0.187174	0.086998	0.112021	-0.089240
45	-0.032523	0.023030	0.118809	0.149210	-0.031032	0.284178	-0.140000

CORRELATION MATRIX ALL VARIABLES

	36	37	38	39	40	41	42
1	-0.059081	-0.037257	0.037099	-0.082743	0.037942	-0.006499	0.024932
2	-0.035819	0.167975	0.214251	0.489691	-0.026720	-0.041391	-0.116431
3	-0.011519	-0.036971	-0.002110	-0.107440	0.031127	-0.000322	0.034984
4	0.014310	-0.106665	-0.052014	-0.119639	-0.031629	0.125809	0.039797
5	-0.245788	-0.061716	-0.164566	-0.111429	-0.103344	0.088048	0.140403
6	-0.011180	-0.011200	0.028226	-0.033922	0.031371	-0.009048	0.013595
7	-0.050293	-0.070526	-0.054704	-0.167772	-0.047500	0.086091	0.062946
8	-0.039182	-0.061229	-0.042821	-0.214253	0.000072	0.043115	0.039781
9	-0.048501	-0.046189	-0.043328	-0.207771	0.013400	0.019614	0.048659
10	0.046597	0.092721	0.085956	0.066927	-0.004959	-0.010317	0.014056
11	0.006582	-0.032836	-0.041672	-0.088271	-0.002399	0.019133	0.035810
12	-0.022976	-0.062940	-0.093657	-0.114445	0.000202	0.040128	0.042124
13	-0.025912	0.010188	0.027535	-0.043115	0.019744	-0.003430	0.023841
14	-0.218519	-0.053784	-0.155205	-0.078337	-0.110576	0.066242	0.120667
15	-0.051649	-0.009619	0.000018	0.007103	0.002010	0.024340	0.031699
16	0.051121	0.085130	0.119480	0.193822	0.016238	0.041808	-0.037457
17	-0.002120	0.195175	0.215848	0.437648	-0.032411	-0.068523	-0.111079
18	0.022312	0.171036	0.195846	0.335314	-0.051714	-0.040374	-0.000951
19	-0.000428	0.149905	0.138862	0.220344	-0.037618	-0.007979	-0.023694
20	-0.023469	0.041249	-0.014163	0.072265	-0.024566	-0.040682	-0.024040
21	0.055024	0.063147	0.081291	0.054337	0.023112	-0.019773	-0.033274
22	0.106676	0.064475	0.121137	0.100830	0.033766	-0.039281	-0.042417
23	0.000411	0.059699	0.079652	0.186558	-0.042950	0.136420	0.018810
24	-0.406022	0.052017	0.039689	0.023768	0.005527	0.004987	0.032344
25	-0.361589	0.056358	0.025794	0.015448	0.019829	-0.013181	0.029141
26	-0.001985	0.116660	0.104909	0.187882	-0.059398	0.050722	-0.019381
27	-0.006261	0.066942	0.089481	0.018291	0.017457	-0.019019	0.002032
28	-0.177922	0.056654	0.060108	0.170758	0.034292	0.001901	0.015319
29	0.275761	-0.034918	-0.022535	-0.107818	-0.000825	-0.002740	-0.012913
30	-0.009684	-0.043435	-0.026890	-0.044897	-0.009419	-0.003355	-0.000219
31	-0.035343	-0.018021	-0.050525	-0.045092	-0.077153	0.038794	0.031968
32	-0.020622	-0.021067	-0.049832	-0.090944	-0.032487	0.016735	0.070997
33	-0.304785	0.078730	0.083467	0.084580	0.044259	-0.035144	-0.008570
34	-0.326223	-0.010773	-0.096666	-0.072693	-0.066219	0.020264	0.110371
35	0.576816	0.015340	0.005847	0.020211	0.024661	-0.022173	-0.046133
36	1.000000	0.008951	0.014956	-0.009239	0.035210	-0.015589	-0.096547
37	0.008951	1.000000	0.258895	0.211600	0.050293	-0.079143	-0.008549
38	0.014956	0.258895	1.000000	0.233907	0.162645	-0.074795	-0.046614
39	-0.009239	0.211600	0.233907	1.000000	0.041867	-0.084289	-0.096094
40	0.035210	0.050293	0.162645	0.041867	1.000000	-0.030070	0.005611
41	-0.015589	-0.079143	-0.074795	-0.084289	-0.030070	1.000000	0.030493
42	-0.096547	-0.008549	-0.046614	-0.096094	0.005611	0.030493	1.000000
43	0.097908	0.091784	0.144306	0.063446	0.194606	-0.072818	-0.031799
44	-0.096427	0.019571	0.001023	0.000797	0.007485	-0.004458	0.030413
45	-0.158469	-0.054013	-0.081588	-0.103229	-0.089667	0.109885	0.206902

CORRELATION MATRIX ALL VARIABLES

	43	44	45
1	-0.043006	0.001567	0.026831
2	0.009901	-0.005199	-0.011554
3	0.014873	-0.004396	0.071687
4	-0.018976	-0.013857	0.127316
5	-0.096619	0.048460	0.403338
6	0.012895	0.000347	0.060543
7	-0.025357	0.000328	0.188393
8	-0.003828	0.013924	0.133531
9	0.006484	0.016070	0.132270
10	0.078787	-0.014647	0.050543
11	0.002371	0.001515	0.104099
12	-0.007536	0.009854	0.131354
13	0.013033	0.004962	0.012224
14	-0.092821	0.042779	0.371013
15	-0.013751	-0.005890	0.154582
16	0.053937	-0.031046	0.044912
17	0.037015	0.014007	-0.082893
18	0.017140	0.020342	-0.070205
19	0.029309	0.010692	0.009558
20	-0.000087	0.020976	0.023428
21	0.049593	-0.001779	-0.038977
22	0.109675	-0.068889	-0.113720
23	0.024727	-0.022267	0.158672
24	-0.027275	0.151002	0.052783
25	-0.021029	0.142334	0.030585
26	0.008689	0.010280	0.066481
27	0.038847	0.013724	0.079071
28	0.003609	0.018547	0.001817
29	0.030250	-0.039879	-0.032523
30	-0.012533	0.021435	0.023030
31	-0.030544	0.032854	0.118809
32	-0.032817	0.187174	0.145210
33	0.007245	0.086998	-0.031052
34	-0.088132	0.112021	0.286170
35	0.074887	-0.089240	-0.140000
36	0.097908	-0.096427	-0.158469
37	0.091784	0.019571	-0.054013
38	0.144306	0.001023	-0.081588
39	0.063446	0.000797	-0.103229
40	0.154606	0.007485	-0.089667
41	-0.072818	-0.004458	0.109885
42	-0.031299	0.030613	0.206502
43	1.000000	-0.021087	-0.092222
44	-0.021087	1.000000	0.004876
45	-0.092222	0.004876	1.000000

APPENDIX B (continued)

SECONDARY

ALL VARIABLES

THE NUMBER OF OBSERVATIONS IS 556678.

VARIABLE	SUMS	SUMS OF SQUARES	MEAN	SIGMA(N)	SIGMA(N-1)
1	257455.2188	257455.2148	0.4625	0.4986	0.4986
2	20064651.2500	0.80364739E 09	36.0436	12.0213	12.0213
3	1039148.3516	2288532.1250	1.8667	0.7915	0.7915
4	1582881.2969	5931974.1875	2.8434	1.6034	1.6034
5	27655875.7500	0.13800361E 10	49.6802	3.3066	3.3064
6	1090161.5156	2477554.6563	1.9583	0.7846	0.7846
7	4091413.0938	33391816.5000	7.3497	2.4426	2.4426
8	1973779.1719	9463713.2500	3.5456	2.1045	2.1045
9	2085365.4844	9787898.7500	3.7461	1.8840	1.8840
10	1856505.1250	6391169.1250	3.3350	0.5991	0.5991
11	3275998.2188	19799815.5000	5.8849	0.9673	0.9673
12	1672468.1094	5398838.5000	3.0044	0.8198	0.8198
13	1191602.6719	2802867.0313	2.1406	0.6730	0.6730
14	46011716.5000	0.43024609E 10	82.6541	29.9519	29.9519
15	40680834.0000	0.31986292E 10	73.0779	20.1383	20.1383
16	7606805.2500	0.19544392E 09	13.6646	12.8206	12.8206
17	5571125.5000	0.10939931E 09	10.0078	9.8166	9.8166
18	3331819.0000	50184827.0000	5.9852	7.3708	7.3708
19	1318898.2656	3472335.6563	2.3692	0.7902	0.7902
20	360947.2695	360947.2695	0.6484	0.4775	0.4775
21	149338.4141	364385.5195	0.2683	0.7633	0.7633
22	69260.4414	97588.4248	0.1244	0.3998	0.3998
23	3684884.4688	26147403.5000	6.6194	1.7759	1.7759
24	1224037.5000	3124871.6250	2.1988	0.8824	0.8824
25	1284690.9844	3378728.5938	2.3078	0.8623	0.8623
26	801539.1172	1309676.8438	1.4399	0.5286	0.5286
27	122404.6865	122404.6855	0.2199	0.4142	0.4142
28	1649879.8906	5655906.9375	2.9638	1.1730	1.1730
29	348457.1133	496831.3047	0.6260	0.7076	0.7076
30	1266793.2188	3292989.0938	2.2756	0.8584	0.8585
31	1859896.0469	8029035.0000	3.3402	1.8073	1.8073
32	792125.3203	1291296.2813	1.4230	0.5430	0.5430
33	1498719.2813	4562402.5000	2.6923	0.9734	0.9734
34	410311.4102	380017.5625	0.7371	0.3733	0.3733
35	925983.5781	2367767.0313	1.6634	1.2192	1.2192
36	1929211.1719	10836485.0000	3.4656	2.7306	2.7306
37	724648.4141	1211297.3281	1.3017	0.6938	0.6938
38	721490.9688	1520132.6719	1.2961	1.0252	1.0252
39	1580979.3906	5291092.8750	2.8400	1.1996	1.1996
40	1279473.8281	3685022.0938	2.2912	1.1705	1.1705
41	2524520.6250	12976341.8750	4.5350	1.6566	1.6566
42	347580.5547	347580.5664	0.6244	0.4843	0.4843
43	904063.0313	3565900.9375	1.6240	1.9412	1.9412
44	560189.3828	622166.7266	1.0063	0.3240	0.3240
45	14247642.1250	0.37457339E 09	25.5940	4.2211	4.2211

CORRELATION MATRIX ALL VARIABLES

	1	2	3	4	5	6	7
1	1.000000	0.076286	-0.019242	0.000300	-0.056764	0.001012	0.115634
2	0.076286	1.000000	-0.135301	0.073398	0.024091	-0.013575	0.020433
3	-0.019242	-0.135301	1.000000	-0.161911	0.006427	0.814235	0.011024
4	0.000300	0.073398	-0.161911	1.000000	-0.053135	-0.149094	0.132464
5	-0.056764	0.024090	0.006427	-0.053135	1.000000	-0.000166	0.186520
6	0.001012	-0.013575	0.814235	-0.149094	-0.000166	1.000000	0.017450
7	0.115634	0.020433	0.011024	0.132464	0.186520	0.017450	1.000000
8	0.124831	-0.137893	0.066452	0.046454	0.082433	0.054131	0.517861
9	0.126155	-0.200770	0.103017	-0.022124	0.048662	0.085016	0.322880
10	-0.097366	0.248544	-0.015924	0.085026	0.046396	0.007612	0.036589
11	0.067782	0.041655	-0.020868	0.143792	0.011909	-0.016502	0.124439
12	-0.016539	-0.074326	0.038746	0.061916	0.164041	0.023347	0.096286
13	0.013042	-0.002461	0.526298	-0.189170	-0.011271	0.557166	0.024227
14	-0.045920	0.057749	0.008108	-0.071574	0.801995	0.011854	0.166422
15	0.040432	0.115293	-0.022509	0.070021	0.166789	-0.009855	0.092905
16	-0.095624	0.315192	-0.035842	0.156799	0.026041	0.003331	0.046355
17	0.086909	0.815305	-0.168306	0.030770	-0.010284	-0.037740	-0.006572
18	0.042665	0.642247	-0.234252	0.052124	-0.019956	-0.122368	-0.004857
19	-0.019120	0.359891	-0.082300	0.008038	-0.020722	-0.040061	-0.032875
20	-0.076452	-0.006934	-0.015458	-0.100724	0.136310	-0.018845	-0.023312
21	-0.122264	0.073481	0.008000	-0.016093	-0.049008	0.008001	-0.036216
22	-0.001981	0.131300	-0.008105	0.026397	-0.093692	0.011715	-0.016232
23	-0.189091	0.414519	-0.012337	0.223814	0.144572	0.034162	0.049909
24	-0.013770	-0.003550	-0.024265	-0.028254	0.157589	-0.021688	0.052425
25	-0.023907	-0.014008	-0.018663	-0.047631	0.122521	-0.012153	0.033084
26	-0.066847	0.311620	-0.105096	0.082595	0.057897	-0.072442	0.008420
27	0.112375	0.065091	0.020905	-0.015338	0.068630	0.022061	0.052618
28	0.165729	-0.020128	-0.012275	0.009738	0.040334	0.003179	0.040289
29	-0.113896	-0.101288	0.076308	0.020293	-0.051492	0.058402	-0.024720
30	0.077054	-0.002339	0.014573	0.071691	0.011022	-0.000424	0.067933
31	-0.015984	0.031575	-0.009155	0.088820	0.124811	0.003040	0.090377
32	-0.021469	-0.060627	0.023448	0.030743	0.081031	0.008172	0.072270
33	0.011980	0.057072	-0.026144	-0.052633	0.054902	-0.011469	0.042956
34	-0.042820	-0.007557	0.010774	-0.114794	0.607596	0.006129	0.105705
35	-0.058993	-0.038005	0.016974	-0.001229	-0.166707	0.010470	-0.070215
36	-0.028467	0.010991	0.003783	0.067483	-0.172718	0.010767	-0.038780
37	-0.052983	0.146691	-0.011670	-0.090158	-0.064362	0.004369	-0.030328
38	0.091626	0.210590	-0.007714	-0.028167	-0.134467	0.021101	0.000737
39	-0.208472	0.427416	-0.092313	0.052099	-0.042995	-0.036880	-0.075140
40	0.074964	-0.026741	0.047960	-0.018335	-0.101955	0.044032	-0.010577
41	-0.008786	-0.041476	-0.017560	0.075183	0.092729	-0.032345	0.041199
42	0.019460	-0.051533	0.025320	-0.043096	0.110374	0.001761	0.047040
43	-0.011166	0.080562	-0.011631	0.001391	-0.101350	-0.005410	-0.012848
44	-0.007654	0.008795	-0.009675	-0.010700	0.037999	-0.015346	0.032820
45	0.099492	0.050714	0.031751	0.062839	0.330917	0.022835	0.164849

CORRELATION MATRIX ALL VARIABLES

	8	9	10	11	12	13	14
1	0.124831	0.126155	-0.097365	0.067782	-0.016539	0.013041	-0.045920
2	-0.137893	-0.200770	0.248544	0.041659	-0.074326	-0.002481	0.057749
3	0.066452	0.103017	-0.015924	-0.020868	0.038746	0.526298	0.008108
4	0.046454	-0.022124	0.085026	0.143792	0.081916	-0.189170	-0.071574
5	0.082433	0.048662	0.046397	0.011909	0.164041	-0.011271	0.801995
6	0.054131	0.085015	0.007612	-0.016502	0.023347	0.557166	0.011854
7	0.517861	0.322880	0.036589	0.124439	0.096286	0.024227	0.166422
8	1.000000	0.557794	-0.030837	0.094552	0.097095	0.049797	0.079245
9	0.557794	1.000000	-0.066030	0.068465	0.069975	0.068783	0.048575
10	-0.030837	-0.066030	1.000000	0.095136	0.060048	-0.006053	0.054274
11	0.094552	0.068465	0.095136	1.000000	0.125511	-0.013618	0.015134
12	0.097095	0.069975	0.060048	0.125511	1.000000	0.042901	0.118783
13	0.049797	0.068783	-0.006053	-0.013618	0.042901	1.000000	0.010447
14	0.079245	0.048575	0.054274	0.015134	0.118783	0.010447	1.000000
15	0.068345	0.031800	0.093384	0.177364	0.238999	0.014860	0.180532
16	-0.020798	-0.043676	0.119222	0.093804	0.024017	-0.006833	0.032073
17	-0.128162	-0.181800	0.311530	0.022054	-0.096259	-0.013515	0.022169
18	-0.111886	-0.154198	0.225271	0.022561	-0.072927	-0.062082	0.005785
19	-0.093006	-0.104079	0.316691	-0.011215	-0.047346	-0.034421	-0.001625
20	-0.028283	-0.012018	0.019709	-0.036500	0.032049	-0.013871	0.115089
21	-0.035411	-0.033787	0.153772	0.020354	-0.042551	-0.005980	-0.044478
22	-0.008004	-0.017878	0.039502	0.003194	0.000434	-0.008426	-0.077644
23	-0.086353	-0.139363	0.453961	0.074678	0.054306	-0.008019	0.135115
24	0.032876	0.021023	0.035727	0.000848	0.022085	-0.006948	0.138733
25	0.029818	0.025443	0.024265	-0.002028	0.017074	0.004624	0.108052
26	-0.078295	-0.114383	0.234477	0.027461	0.007583	-0.056099	0.064809
27	0.047693	0.031625	0.132300	0.001543	0.030097	0.015142	0.066654
28	0.034461	0.026762	-0.055685	0.011539	0.010370	-0.014850	0.037597
29	-0.007204	-0.001824	0.023914	0.000305	0.008432	0.037076	-0.065990
30	0.095475	0.085574	0.082310	0.107420	-0.001331	-0.002524	0.015568
31	0.083250	0.044048	0.084180	0.063362	0.049762	-0.019694	0.127662
32	0.074225	0.068829	0.059095	0.059482	0.051716	0.003844	0.069057
33	0.035200	0.036977	0.047799	-0.008048	-0.014053	0.001069	0.050288
34	0.039888	0.041573	0.021309	-0.011824	0.084230	0.010981	0.599283
35	-0.049509	-0.043405	-0.014958	-0.028297	-0.034873	-0.002718	-0.164941
36	-0.037067	-0.048320	0.034512	-0.003034	-0.006218	-0.009985	-0.164147
37	-0.029055	-0.013083	0.125208	-0.012660	-0.034640	0.008342	-0.049297
38	0.004070	0.005662	0.129040	0.026846	-0.055987	0.031506	-0.121741
39	-0.149611	-0.173258	0.194652	-0.030081	-0.056372	-0.033699	-0.022362
40	0.026577	0.017220	-0.011666	0.044816	0.005916	0.033331	-0.111825
41	0.028005	0.021251	0.066135	0.056329	0.029821	-0.054689	0.076299
42	0.036073	0.059576	-0.021818	0.024821	0.006187	0.013469	0.102922
43	-0.011076	-0.009581	0.069466	0.007331	0.011848	-0.005659	-0.104759
44	0.039268	0.023847	0.028603	0.047840	0.012372	-0.002841	0.037591
45	0.115678	0.107616	0.106004	0.123325	0.090918	0.006372	0.316643

CORRELATION MATRIX ALL VARIABLES

	15	16	17	18	19	20	21
1	0.040432	-0.095624	0.086909	0.042665	-0.019120	-0.076452	-0.122264
2	0.115293	0.315192	0.815305	0.642247	0.359891	-0.006934	0.073481
3	-0.022510	-0.035842	-0.168306	-0.234252	-0.082500	-0.015458	0.008000
4	0.070021	0.156799	0.030770	0.052124	0.008038	-0.100724	-0.016093
5	0.166789	0.026041	-0.010284	-0.019956	-0.020722	0.136310	-0.049008
6	-0.009855	0.003331	-0.057740	-0.122368	-0.040061	-0.018845	0.008001
7	0.092905	0.046355	-0.006572	-0.004857	-0.032875	-0.023312	-0.036216
8	0.068345	-0.020798	-0.128162	-0.111886	-0.093006	-0.028283	-0.035411
9	0.031800	-0.043676	-0.181800	-0.154198	-0.104079	-0.012018	-0.033787
10	0.093389	0.119222	0.311530	0.225271	0.316691	0.019709	0.153772
11	0.177364	0.093804	0.022054	0.022561	-0.011215	-0.036500	0.020354
12	0.238999	0.024017	-0.096259	-0.072927	-0.047346	0.032049	-0.042351
13	0.014860	-0.006833	-0.013515	-0.062082	-0.034421	-0.013871	-0.005980
14	0.180532	0.032073	0.022169	0.005785	-0.001625	0.115089	-0.044478
15	1.000000	0.095855	0.089467	0.083127	0.036199	0.021582	-0.014591
16	0.095855	1.000000	0.286811	0.216398	0.174103	-0.021685	0.208052
17	0.089467	0.286811	1.000000	0.771790	0.414956	-0.006990	0.076616
18	0.083127	0.216398	0.771790	1.000000	0.351493	-0.019976	0.048873
19	0.036199	0.174103	0.414956	0.351493	1.000000	0.025546	0.114205
20	0.021582	-0.021685	-0.006990	-0.019976	0.025546	1.000000	0.003609
21	-0.014591	0.208052	0.076616	0.048873	0.114205	0.003609	1.000000
22	0.010700	0.097942	0.123829	0.080571	0.058837	-0.002716	0.015094
23	0.142683	0.402901	0.469860	0.394282	0.334236	-0.017678	0.113931
24	0.056229	-0.013758	0.015518	0.017960	0.034198	0.078191	0.015749
25	0.041859	-0.031652	0.006699	0.007757	0.042799	0.066137	0.017336
26	0.076825	0.198911	0.356670	0.375808	0.321241	-0.019903	0.084068
27	0.053327	0.023974	0.085979	0.065928	0.068321	-0.015702	0.019977
28	0.025555	-0.027288	-0.046448	-0.044822	-0.027138	0.023232	-0.065195
29	-0.023633	0.018361	-0.106514	-0.088783	-0.043627	-0.044084	0.036279
30	0.023671	0.020092	-0.063905	-0.085652	-0.017590	-0.026325	0.114883
31	0.047612	0.059112	0.035155	0.030685	0.022822	0.004510	0.037912
32	0.042916	0.025684	-0.063426	-0.045461	-0.000927	0.005232	0.086357
33	0.049510	-0.023248	0.083257	0.059972	0.063884	0.048521	0.023839
34	0.080076	-0.044708	-0.014641	-0.017241	0.001733	0.138781	-0.029210
35	-0.066003	0.031308	-0.029220	0.006343	0.004256	-0.033088	0.026970
36	-0.031545	0.068767	0.010895	0.034822	0.021715	-0.085946	0.014896
37	0.000729	0.083262	0.186330	0.158654	0.172090	0.046503	0.073575
38	0.041615	0.102133	0.219441	0.168611	0.171061	-0.008049	0.084888
39	0.027230	0.213393	0.392734	0.320513	0.240735	0.041327	0.091545
40	0.027847	-0.005109	-0.049122	-0.072285	-0.044632	0.005789	0.021576
41	0.022557	0.010959	-0.050820	-0.045313	-0.028198	0.029056	0.016258
42	0.026889	-0.028439	-0.062866	-0.028663	-0.025124	0.012958	0.041564
43	0.022843	0.059340	0.088999	0.072144	0.061145	0.030051	0.008126
44	0.002843	0.001871	0.030273	0.042975	0.021813	0.025746	0.099151
45	0.121836	0.094869	0.013977	0.001291	0.016234	0.011447	0.018510

CORRELATION MATRIX ALL VARIABLES

	22	23	24	25	26	27	28
1	-0.001981	-0.189091	-0.013770	-0.023907	-0.066847	0.112375	0.165729
2	0.131300	0.414520	-0.003550	-0.014008	0.311620	0.065091	-0.020128
3	-0.008105	-0.012337	-0.024265	-0.018663	-0.105096	0.020905	-0.012275
4	0.026397	0.223814	-0.028256	-0.047631	0.082585	-0.015338	0.009738
5	-0.093692	0.144572	0.157589	0.122521	0.057897	0.068630	0.040334
6	0.011715	0.034162	-0.021688	-0.012153	-0.072442	0.022061	0.003179
7	-0.016232	0.049909	0.052425	0.033084	0.008420	0.052618	0.040289
8	-0.008004	-0.086353	0.032876	0.029818	-0.078295	0.047693	0.034461
9	-0.017878	-0.139363	0.021023	0.025443	-0.114333	0.031625	0.026762
10	0.039502	0.453960	0.035727	0.024265	0.234477	0.132300	-0.055685
11	0.003194	0.074678	0.000848	-0.002028	0.027461	0.001542	0.011539
12	0.000434	0.084306	0.022004	0.017074	0.007583	0.030097	0.010370
13	-0.008426	-0.008019	-0.006948	0.004624	-0.056098	0.015142	-0.014850
14	-0.077644	0.135115	0.138733	0.108052	0.064809	0.066654	0.037597
15	0.010700	0.142683	0.056229	0.041859	0.076825	0.053327	0.023555
16	0.097942	0.402901	-0.013758	-0.031652	0.198911	0.023974	-0.027288
17	0.123829	0.469860	0.015518	0.006699	0.356670	0.085979	-0.046448
18	0.080571	0.394282	0.017960	0.007757	0.375808	0.065928	-0.044822
19	0.058837	0.334236	0.034198	0.042799	0.321241	0.068321	-0.027138
20	-0.002716	-0.017678	0.078191	0.066137	-0.019903	-0.015702	0.023232
21	0.015094	0.113931	0.015749	0.017336	0.084068	0.019977	-0.065195
22	1.000000	0.073784	-0.037182	-0.039656	0.027084	0.013862	0.011875
23	0.073784	1.000000	0.044032	0.019221	0.457390	0.057872	-0.053563
24	-0.037182	0.044032	1.000000	0.694247	0.035921	0.039175	0.154888
25	-0.039656	0.019221	0.694247	1.000000	0.018423	0.036554	0.104231
26	0.027084	0.457390	0.035921	0.018423	1.000000	0.021799	-0.030630
27	0.013862	0.057872	0.039175	0.036554	0.021799	1.000000	0.022822
28	0.011875	-0.053563	0.154887	0.104231	-0.030630	0.022822	1.000000
29	0.009569	-0.015149	-0.239160	-0.219070	-0.025574	-0.007643	-0.166434
30	-0.047943	-0.063548	0.046301	0.046318	-0.040296	0.011802	0.032676
31	-0.030856	0.094150	0.059654	0.042520	0.043497	0.028351	-0.000686
32	-0.078394	0.000570	0.044746	0.030415	-0.002371	0.071055	-0.055777
33	-0.023348	0.011991	0.482494	0.508076	0.017916	0.062337	0.099057
34	-0.110404	0.030135	0.255977	0.265115	0.028812	0.050825	0.029311
35	0.064523	-0.018346	-0.311950	-0.285828	0.028108	-0.033422	-0.088753
36	0.077882	0.012254	-0.417735	-0.358674	0.030999	-0.014813	-0.178109
37	0.064412	0.075328	0.029851	0.028826	0.118434	0.073140	0.040006
38	0.100128	0.069385	0.057390	0.046099	0.092977	0.108848	0.080747
39	0.089153	0.299920	0.061699	0.047234	0.207580	-0.007583	0.209159
40	0.057170	-0.106685	-0.009928	0.007999	-0.091125	0.040497	0.056046
41	-0.035559	0.069708	0.031433	0.026806	-0.018281	-0.005741	0.025406
42	-0.062871	-0.026068	0.033478	0.005167	-0.011432	0.055208	0.007915
43	0.124755	0.069190	-0.001810	-0.004999	0.037958	0.026992	0.031186
44	-0.069651	0.018451	0.144414	0.142502	0.024581	0.013967	0.032171
45	-0.112292	0.129846	0.057043	0.008190	0.056650	0.119604	0.030762

CORRELATION MATRIX ALL VARIABLES

	29	30	31	32	33	34	35
1	-0.113896	0.077054	-0.015984	-0.021469	0.011980	-0.042820	-0.058993
2	-0.101288	-0.082339	0.031575	-0.060627	0.057072	-0.007557	-0.038004
3	0.076308	0.014573	-0.009155	0.023448	-0.026144	0.010774	0.016974
4	0.020293	0.071691	0.088820	0.030743	-0.052633	-0.114794	-0.001229
5	-0.051492	0.011022	0.124811	0.081031	0.054903	0.607596	-0.166707
6	0.058402	-0.000424	0.003040	0.008172	-0.011469	0.006129	0.010470
7	-0.024720	0.067933	0.090377	0.072270	0.042[illegible]6	0.105705	-0.070215
8	-0.007204	0.095475	0.083250	0.074225	0.035200	0.059888	-0.049509
9	-0.001824	0.085574	0.044048	0.068829	0.036977	0.041573	-0.043405
10	0.023914	0.082310	0.084180	0.059095	0.047799	0.021309	-0.014958
11	0.000305	0.107420	0.063362	0.059482	-0.008048	-0.011824	-0.028297
12	0.008432	-0.001331	0.049762	0.051716	-0.014053	0.084230	-0.034873
13	0.037076	-0.002524	-0.019694	0.003844	0.001069	0.010981	-0.002718
14	-0.065990	0.015568	0.127662	0.069057	0.050288	0.599283	-0.164941
15	-0.023633	0.023671	0.047612	0.042916	0.049510	0.080076	-0.066003
16	0.018361	0.020092	0.059112	0.025684	-0.023248	-0.044708	0.031308
17	-0.106514	-0.063905	0.035155	-0.063426	0.083257	-0.014641	-0.029220
18	-0.088783	-0.085652	0.030685	-0.045461	0.059972	-0.017241	0.006343
19	-0.043627	-0.017590	0.022822	-0.000927	0.063884	0.001733	0.004256
20	-0.044084	-0.026325	0.004510	0.005232	0.048521	0.138781	-0.033088
21	0.036279	0.114883	0.037912	0.086357	0.023839	-0.029210	0.026970
22	0.009569	-0.047943	-0.030856	-0.078394	-0.023348	-0.110404	0.064523
23	-0.015149	-0.063548	0.094150	0.000570	0.011991	0.030135	-0.018346
24	-0.239160	0.046301	0.059654	0.044746	0.482494	0.255977	-0.311950
25	-0.219070	0.046318	0.042520	0.030415	0.508076	0.265115	-0.285828
26	-0.025574	-0.040297	0.043497	-0.002371	0.017916	0.028812	0.028108
27	-0.007643	0.011802	0.028351	0.071055	0.062337	0.050825	-0.033422
28	-0.166434	0.032676	-0.000686	-0.055777	0.099057	0.029311	-0.088753
29	1.000000	0.037168	0.013439	0.074523	-0.277836	-0.090426	0.158823
30	0.037168	1.000000	0.156997	0.272522	0.053552	0.020767	-0.040861
31	0.013439	0.156996	1.000000	0.139911	0.054913	0.093171	-0.039937
32	0.074523	0.272522	0.139911	1.000000	0.049192	0.076724	-0.025967
33	-0.277836	0.053552	0.054913	0.049192	1.000000	0.172491	-0.239387
34	-0.090426	0.020767	0.093171	0.076724	0.172491	1.000000	-0.223159
35	0.158823	-0.040861	-0.039937	-0.025967	-0.239387	-0.223159	1.000000
36	0.285905	0.004508	-0.009339	0.016191	-0.348823	-0.237970	0.531888
37	-0.024215	-0.030736	-0.006716	0.000135	0.048027	-0.018789	0.045410
38	-0.040719	-0.006834	-0.012283	0.004563	0.084901	-0.080054	0.014021
39	-0.109576	-0.050679	-0.013788	-0.062656	0.078507	-0.041757	-0.013744
40	-0.010709	0.060316	-0.054844	0.021039	0.043850	-0.067753	0.027261
41	-0.034655	0.069614	0.045047	0.033818	0.021893	0.043609	-0.053168
42	-0.027717	-0.005417	0.015555	0.064444	0.003547	0.095624	-0.047147
43	-0.011624	-0.057503	-0.031418	-0.042548	0.026004	-0.088844	0.080924
44	-0.044406	0.099670	0.071529	0.193385	0.094503	0.087799	-0.067300
45	-0.020737	0.124497	0.132769	0.178514	0.002940	0.224948	-0.096585

CORRELATION MATRIX ALL VARIABLES

	36	37	38	39	40	41	42
1	-0.028467	-0.052983	0.091626	-0.208472	0.074964	-0.008786	0.019460
2	0.010991	0.146691	0.210590	0.427416	-0.026741	-0.041476	-0.051533
3	0.003783	-0.011670	-0.007714	-0.092313	0.047960	-0.017560	0.025320
4	0.067483	-0.090158	-0.028167	0.052099	-0.018335	0.075183	-0.043096
5	-0.172718	-0.064362	-0.134467	-0.042995	-0.101955	0.092729	0.110374
6	0.010767	0.004369	0.021101	-0.036880	0.044032	-0.032345	0.001761
7	-0.038780	-0.030328	0.000737	-0.075140	-0.010577	0.041199	0.047040
8	-0.037067	-0.029055	0.004070	-0.149611	0.026577	0.028005	0.036073
9	-0.048320	-0.013083	0.005662	-0.173258	0.017220	0.021251	0.059576
10	0.034512	0.125208	0.129040	0.194652	-0.011666	0.066134	-0.021818
11	-0.003034	-0.012660	0.026846	-0.030081	0.044816	0.056329	0.024821
12	-0.006218	-0.034640	-0.055987	-0.056372	0.005916	0.029821	0.006187
13	-0.009985	0.008342	0.031506	-0.033699	0.033331	-0.054689	0.013469
14	-0.164147	-0.049297	-0.121741	-0.022362	-0.111825	0.076299	0.102922
15	-0.031545	0.000729	0.041615	0.027230	0.027847	0.022557	0.026889
16	0.068767	0.083262	0.102133	0.213393	-0.005109	0.010959	-0.028439
17	0.010895	0.186330	0.219441	0.392734	-0.049122	-0.050820	-0.062866
18	0.034822	0.158654	0.168811	0.320513	-0.072285	-0.045313	-0.028663
19	0.021715	0.172090	0.171061	0.240735	-0.044632	-0.028198	-0.025124
20	-0.085946	0.046503	-0.008069	0.041327	0.005789	0.029056	0.012958
21	0.014896	0.073575	0.084888	0.091545	0.021576	0.016258	0.041564
22	0.077882	0.064412	0.100128	0.089153	0.057170	-0.035559	-0.062871
23	0.012254	0.075328	0.069385	0.299921	-0.106685	0.069708	-0.026068
24	-0.417735	0.029851	0.057390	0.061699	-0.009928	0.031433	0.033478
25	-0.358674	0.028826	0.046099	0.047234	0.007999	0.026806	0.005167
26	0.030999	0.118434	0.092977	0.207580	-0.091125	-0.018281	-0.011432
27	-0.014813	0.073140	0.108848	-0.007583	0.040497	-0.005741	0.055206
28	-0.178109	0.040006	0.080747	0.209159	0.056046	0.025406	0.007915
29	0.285905	-0.024215	-0.040719	-0.109576	-0.010709	-0.034655	-0.027717
30	0.004508	-0.030736	-0.006834	-0.050679	0.060316	0.069614	-0.005417
31	-0.009339	-0.006716	-0.012283	-0.013787	-0.054844	0.045047	0.015555
32	0.016191	0.000135	0.004563	-0.062656	0.021039	0.033818	0.064444
33	-0.348823	0.048027	0.084901	0.078507	0.043850	0.021893	0.003547
34	-0.237970	-0.018789	-0.080054	-0.041757	-0.067753	0.043609	0.095624
35	0.531888	0.045410	0.014021	-0.013744	0.027261	-0.053168	-0.047147
36	1.000000	0.039147	0.000069	-0.050803	0.051538	-0.052479	-0.079988
37	0.039147	1.000000	0.274508	0.172259	0.043872	-0.039861	0.002534
38	0.000069	0.274508	1.000000	0.173853	0.163521	-0.062948	0.001457
39	-0.050803	0.172259	0.173853	1.000000	0.011417	-0.034070	-0.057156
40	0.051538	0.043872	0.163521	0.011417	1.000000	-0.019377	-0.015869
41	-0.052479	-0.039861	-0.062948	-0.034070	-0.019377	1.000000	0.043379
42	-0.079988	0.002534	0.001457	-0.057156	-0.015869	0.043379	1.000000
43	0.074839	0.135739	0.158676	0.093553	0.196977	-0.024111	-0.055363
44	-0.081549	0.032934	0.029072	0.006728	0.019206	0.016035	0.003270
45	-0.086931	-0.026364	0.003962	-0.046518	-0.035760	0.119201	0.209650

CORRELATION MATRIX ALL VARIABLES

	43	44	45
1	-0.011166	-0.007654	0.099492
2	0.080562	0.008795	0.050714
3	-0.011631	-0.009675	0.031751
4	0.001391	-0.010700	0.062839
5	-0.101350	0.037999	0.330917
6	-0.005410	-0.015346	0.022835
7	-0.012848	0.032820	0.164849
8	-0.011076	0.039268	0.115678
9	-0.009581	0.023847	0.107616
10	0.069466	0.028603	0.106004
11	0.007331	0.047840	0.123325
12	0.011848	0.012372	0.090918
13	-0.005659	-0.002841	0.006372
14	-0.104759	0.037591	0.316643
15	0.022843	0.002843	0.121836
16	0.059340	0.001871	0.094869
17	0.088999	0.030273	0.013977
18	0.072144	0.042975	0.001291
19	0.081145	0.021813	0.016234
20	0.030051	0.025747	0.011447
21	0.008126	0.099151	0.018510
22	0.124755	-0.069651	-0.112292
23	0.069190	0.018451	0.129846
24	-0.001810	0.144414	0.057044
25	-0.004999	0.142502	0.008189
26	0.037958	0.024581	0.056650
27	0.026992	0.013967	0.119604
28	0.031186	0.032171	0.030762
29	-0.011624	-0.044406	-0.020737
30	-0.057503	0.099670	0.124497
31	-0.031418	0.071529	0.132770
32	-0.042548	0.193385	0.178514
33	0.026004	0.094503	0.002940
34	-0.088844	0.087799	0.224948
35	0.080924	-0.067300	-0.096585
36	0.074839	-0.081549	-0.086931
37	0.135739	0.032934	-0.026364
38	0.158676	0.029072	0.003942
39	0.093553	0.006728	-0.046518
40	0.196977	0.019206	-0.035760
41	-0.024111	0.016035	0.119201
42	-0.055363	0.003270	0.209650
43	1.000000	-0.029771	-0.071660
44	-0.029771	1.000000	0.042036
45	-0.071660	0.042036	1.000000

APPENDIX C

Varimax Factors for Elementary (K-8) and Secondary (9-12) Teachers

ELEMENTARY

VARIMAX FACTORS

	1	2	3	4	5	6	7
2	0.864398	0.035081	0.006783	-0.141518	0.088390	-0.007961	-0.010661
3	-0.177718	-0.007638	0.886529	0.039721	0.029492	0.019437	0.015577
4	-0.202771	-0.024866	-0.131873	0.271074	0.427363	0.093178	0.037374
6	-0.043176	-0.003506	0.905928	0.033917	0.041159	0.022177	0.017455
7	-0.059450	0.028468	0.000480	0.730793	0.129258	0.082104	-0.041218
8	-0.121230	0.034292	0.043961	0.844688	-0.030336	0.061225	0.007542
9	-0.178173	0.035497	0.074538	0.755417	-0.084400	0.046660	0.016340
10	-0.208510	-0.018109	0.030880	-0.027878	0.658715	0.096498	0.052005
11	-0.133987	-0.031449	0.024034	0.051400	0.015721	0.706662	0.014003
12	-0.135043	0.020773	0.046955	0.055639	0.017242	0.734449	-0.015490
13	0.015437	0.007759	0.772021	0.032688	-0.064141	0.036126	0.013555
15	0.126359	0.054318	0.043897	0.057353	0.036216	0.593672	0.007760
17	0.882138	0.027711	-0.046643	-0.128121	0.140090	-0.060992	-0.000168
18	0.788298	0.009038	-0.158574	-0.042195	0.114264	-0.065062	-0.025136
19	0.292398	0.045575	-0.105451	-0.050579	0.545330	-0.060913	0.003639
21	-0.002425	0.031255	-0.018013	-0.043335	0.006342	-0.005553	-0.007749
22	0.099539	-0.077475	0.023557	0.020705	0.003584	0.017095	0.156189
23	0.276916	0.003548	0.127256	0.011909	0.759807	0.098726	-0.030926
24	-0.025539	0.807436	-0.014545	0.021370	0.026774	-0.004003	0.067313
25	-0.043972	0.807304	-0.009008	-0.003391	0.023972	-0.025913	0.075991
26	0.336581	0.022899	-0.027190	0.013888	0.536379	-0.049355	-0.003654
27	-0.038878	-0.006219	0.025339	0.064387	0.064367	0.075836	-0.109170
28	0.019564	0.176672	-0.006028	-0.002644	-0.049815	0.002916	0.079097
29	-0.187158	-0.394207	0.062987	-0.044938	0.053648	-0.009566	0.040870
30	-0.036108	-0.028351	-0.019377	0.040927	-0.019636	-0.025856	0.025923
31	0.053869	0.037267	-0.001870	0.110196	0.035496	0.086585	-0.245537
32	-0.099533	0.048033	0.017458	0.014349	0.037470	0.069684	0.014232
33	0.067577	0.644925	-0.032527	-0.003316	0.009585	-0.019644	0.108267
35	-0.009158	-0.641174	-0.052493	-0.038171	-0.028917	-0.068984	0.163826
36	-0.003701	-0.692435	-0.039166	-0.028835	0.025654	-0.042639	0.176723
37	0.208705	0.050129	-0.020479	-0.021618	0.061301	-0.068309	0.222505
38	0.240191	0.032795	0.040582	0.014844	0.083939	-0.082544	0.455339
39	0.521098	0.025204	-0.016768	-0.229965	0.126766	-0.032004	0.160792
40	-0.042641	0.009526	0.024725	-0.020206	-0.092288	0.046713	0.742994
43	-0.005612	-0.062294	0.002022	0.009116	0.069787	0.005032	0.585566
44	0.067323	0.217107	0.002460	-0.010472	-0.078411	-0.014929	0.199507

VARIMAX FACTORS

	8	9	10	11
2	-0.027637	-0.052017	0.038658	-0.018535
3	0.009249	-0.010519	-0.000143	-0.007288
4	0.156978	-0.137731	0.018416	0.361871
6	0.016745	-0.021343	0.012688	-0.012964
7	0.110262	-0.062492	-0.005435	0.131904
8	0.047046	0.016943	0.001119	-0.042765
9	-0.021224	0.039292	-0.020791	-0.123271
10	0.010392	0.034103	0.063688	-0.339897
11	0.026569	0.038299	0.000996	-0.075189
12	0.011091	0.033857	-0.018104	0.006765
13	-0.022253	0.052799	-0.007133	-0.018201
15	0.064359	-0.067951	0.024521	0.064610
17	-0.017193	0.022388	0.032673	-0.059282
18	0.013625	0.066781	0.009510	-0.037600
19	-0.017976	0.020007	-0.023091	-0.204889
21	0.068333	0.189298	0.704485	-0.086475
22	-0.081490	-0.127783	0.648069	0.021050
23	0.005380	0.016664	0.015923	0.088130
24	0.060312	0.030400	0.056566	0.003624
25	0.066810	0.099876	0.064667	-0.010162
26	0.003532	0.037933	-0.020920	0.059307
27	0.117286	-0.070818	0.005140	-0.648559
28	0.012515	-0.741511	-0.061492	-0.088708
29	0.109063	0.313464	0.073406	0.000276
30	0.652252	-0.361504	0.071339	0.112982
31	0.478970	0.017398	0.077768	-0.060658
32	0.683337	0.231782	-0.140414	-0.080604
33	0.096472	-0.028353	0.078782	-0.089068
35	0.019681	0.070214	0.130393	-0.034522
36	0.064942	0.180870	0.162449	-0.009516
37	-0.049046	-0.001531	0.041425	-0.539123
38	-0.040719	-0.089647	0.116799	-0.352070
39	-0.042845	-0.267158	0.063770	-0.185121
40	-0.047888	-0.048003	-0.069809	0.048977
43	-0.025095	0.029086	0.141037	-0.034619
44	0.349619	0.323542	-0.297700	-0.031515

APPENDIX C (continued)

SECONDARY

VARIMAX FACTORS

	1	2	3	4	5	6	7
2	0.850953	0.010450	0.007269	-0.069765	-0.015764	0.076681	-0.045213
3	-0.173425	-0.029177	0.892181	0.034080	0.009641	0.014996	0.009096
4	-0.027099	-0.096665	-0.252334	0.114104	0.100740	0.110574	-0.224023
6	-0.039651	-0.022784	0.913043	0.036270	0.002423	0.027487	0.008456
7	0.062474	0.038169	-0.005015	0.753549	0.056882	-0.017197	-0.122801
8	-0.080313	0.026021	0.031484	0.858061	0.061366	0.015687	-0.047602
9	-0.152611	0.028900	0.070087	0.752528	0.037152	0.003267	0.015595
10	0.104847	-0.002055	0.023640	-0.015905	0.141117	0.055081	-0.130983
11	0.085723	-0.030754	-0.021314	0.100346	0.233113	0.130739	-0.496572
12	-0.214443	0.013101	0.032231	0.047456	-0.085218	-0.032520	-0.635251
13	0.053064	0.007452	0.777959	0.030482	-0.009002	-0.006880	-0.030922
15	0.120515	0.062531	0.000473	0.020097	0.000728	0.018829	-0.706212
17	0.878810	0.032961	-0.031227	-0.056237	-0.009929	0.057857	0.000426
18	0.815665	0.017768	-0.124892	-0.034720	-0.023176	0.014729	-0.003721
19	0.331319	0.034335	-0.042289	-0.050107	0.006467	0.032738	0.098871
21	-0.043323	-0.012909	0.018494	-0.085840	0.356896	0.098931	0.199235
22	0.112062	-0.038342	0.017715	0.041608	-0.167633	0.496387	0.041029
23	0.332052	0.012655	0.054653	-0.034384	-0.028228	0.007629	-0.171679
24	-0.075528	0.819667	-0.017527	0.006784	0.076242	0.064048	0.013364
25	-0.081445	0.812667	-0.008235	-0.004130	0.073166	0.099221	0.037216
26	0.288516	0.005715	-0.079751	-0.025954	-0.046739	-0.057044	-0.010810
27	0.002068	0.021549	-0.006709	0.068950	0.032338	-0.095906	-0.199819
28	-0.098276	0.145984	-0.008674	0.038430	-0.018206	0.003145	-0.024805
29	-0.180161	-0.436407	0.065258	-0.033003	0.107962	0.004361	0.000006
30	-0.085942	-0.009061	0.000756	0.067702	0.682220	0.032045	-0.006765
31	0.010432	0.028899	-0.003011	0.126213	0.387356	-0.082131	-0.049374
32	-0.050919	-0.015331	0.002194	0.030946	0.656337	-0.087684	-0.095674
33	0.046315	0.721012	-0.007692	0.028652	0.090955	0.134642	0.042529
35	-0.076696	-0.547864	-0.020054	-0.041161	-0.037268	0.270395	0.161056
36	-0.015397	-0.672682	-0.026172	-0.022345	0.031107	0.249224	0.056419
37	0.083516	-0.020625	-0.021718	0.001445	-0.001798	0.179956	0.112654
38	0.200761	0.028524	0.013627	0.034058	0.079634	0.369162	0.021603
39	0.378088	0.048014	-0.013645	-0.166485	-0.020637	0.114324	0.087964
40	-0.017971	0.002792	0.050575	-0.056119	0.157690	0.598146	-0.136663
43	0.004892	0.004211	-0.025706	-0.004989	-0.116370	0.638329	-0.038787
44	0.093628	0.163415	-0.010673	-0.013550	0.485618	-0.073261	0.006328

VARIMAX FACTORS

	8	9	10
2	-0.078809	0.215479	-0.022879
3	-0.002050	0.015812	0.002168
4	-0.188742	0.289835	0.466959
6	-0.022081	0.027249	0.011908
7	-0.028610	0.050449	0.078739
8	0.014431	-0.056021	-0.027770
9	0.037494	-0.102452	-0.101466
10	-0.002898	0.657342	-0.147885
11	-0.047650	-0.026436	0.156211
12	0.025740	0.149862	-0.043101
13	0.042377	-0.066439	-0.052800
15	0.027524	0.027581	-0.085866
17	-0.007170	0.275020	-0.085850
18	0.045330	0.223751	-0.071790
19	0.008773	0.497291	-0.223479
21	0.034780	0.309164	-0.098131
22	0.002906	0.082860	0.141071
23	-0.040690	0.724337	0.109768
24	0.012942	0.120536	-0.008028
25	0.093330	0.105115	-0.012078
26	0.012002	0.574193	-0.029034
27	0.045435	0.097454	-0.543723
28	-0.820043	-0.069686	-0.071605
29	0.269652	0.120287	-0.008947
30	-0.097191	-0.014752	0.098180
31	-0.032507	0.176946	0.153864
32	0.126878	-0.000117	-0.110731
33	0.051020	0.032919	-0.059410
35	0.125987	0.088088	-0.020838
36	0.215580	0.098500	0.007525
37	-0.148847	0.181819	-0.580917
38	-0.193348	0.050895	-0.477300
39	-0.530605	0.278292	-0.039984
40	-0.060398	-0.265598	-0.114623
43	0.003007	0.088804	-0.115239
44	0.032188	-0.069222	-0.102579

APPENDIX D

Index and Selected Variable Intercorrelations for Elementary Teachers*

*In these analyses, the records of all teachers who did not give a response for their sex and/or age were eliminated from all correlations. In addition, the OMITS on variables 30 and 32 were assigned a value of 1 and the OMITS for variable 43 were given a value of 0. Also, eliminated were schools with a zero weight. Consequently the estimated number of teachers is about 24,000 less than in Appendix B.

ORDER OF VARIABLES

1*	I:	Experience
2	II:	Teaching Conditions
3	III:	Localism
4	IV:	Social-Economic Background
5	V:	Training
6	VI:	College Attendance
7	VII:	Activities
8	VIII:	Preference
9	1**	Sex
10	2	Age
11	5	Race
12	14	% White Undergraduate
13	16	Credits Beyond Highest Degree
14	20	Assignment to Present School
15	21	NSF etc. Summer Institution
16	23	Salary
17	27	Member National Honorary
18	34	% White Teachers Students
19	41	Hours/Day Teaching
20	42	Average Class Size
21	45	Vocabulary Score

*These numbers represent the ordering of the variables on the following sheet.

**These numbers represent the variable numbers from the List of Variables.

CORRELATION MATRIX TOTAL SAMPLE

	1	2	3	4	5	6	7
1	1.000000	0.062105	-0.152001	-0.298313	0.325778	-0.163092	0.123017
2	0.062105	1.000000	-0.004628	0.061391	0.027812	0.030485	-0.011583
3	-0.152001	-0.004628	1.000000	0.092258	0.013901	0.092431	0.032412
4	-0.298313	0.061391	0.092258	1.000000	0.000901	0.189402	-0.045171
5	0.325778	0.027812	0.013901	0.000901	1.000000	0.071188	0.075334
6	-0.163092	0.030485	0.092431	0.189402	0.071188	1.000000	-0.024456
7	0.123017	-0.011583	0.032412	-0.045171	0.075334	-0.024456	1.000000
8	-0.083728	0.099997	0.007032	0.146480	0.037667	0.118433	-0.097965
9	0.141824	0.068699	-0.036175	0.029451	-0.085862	-0.033412	-0.004528
10	0.895399	0.063355	-0.087593	-0.269941	0.258291	-0.124222	0.095410
11	-0.024032	0.217861	0.052675	0.164318	0.006628	0.186562	-0.179395
12	0.019948	0.192537	0.047378	0.126358	0.013738	0.158296	-0.175516
13	0.202389	-0.046788	0.063129	0.022067	0.276337	0.074854	0.108293
14	0.086007	0.047881	-0.032562	-0.069321	-0.026543	0.012733	-0.012265
15	0.034381	-0.035303	-0.008867	-0.025388	0.053803	-0.002832	0.091958
16	0.309557	0.018142	0.076158	0.018417	0.793479	0.080303	0.024518
17	0.028553	0.034933	0.043292	0.048785	0.086872	0.054698	0.079543
18	-0.005124	0.380442	0.039148	0.094821	-0.035056	0.096613	-0.125266
19	-0.080352	-0.011928	-0.005313	0.081592	0.069652	0.041827	-0.191015
20	-0.120602	0.056372	0.031417	0.085611	0.010195	0.057247	-0.027536
21	-0.072757	0.093216	0.060565	0.203132	0.122257	0.186876	-0.126037

	8	9	10	11	12	13	14
1	-0.083728	0.141824	0.895399	-0.024032	0.019948	0.202389	0.086007
2	0.099997	0.068699	0.063355	0.217861	0.192537	-0.046788	0.047881
3	0.007032	-0.036175	-0.087593	0.052675	0.047378	0.063129	-0.032562
4	0.146480	0.029451	-0.269941	0.164318	0.126358	0.022067	-0.069321
5	0.037667	-0.085862	0.258291	0.006628	0.013738	0.276337	-0.026543
6	0.118433	-0.033412	-0.124222	0.186562	0.158296	0.074854	0.012733
7	-0.097965	-0.004528	0.095410	-0.179395	-0.175516	0.108293	-0.012265
8	1.000000	-0.021952	-0.076138	0.162982	0.153843	-0.012770	0.005332
9	-0.021952	1.000000	0.172750	-0.002852	-0.007154	-0.107346	-0.034471
10	-0.076138	0.172750	1.000000	0.043951	0.085232	0.207016	0.097097
11	0.162982	-0.002852	0.043951	1.000000	0.807625	-0.017329	0.117289
12	0.153843	-0.007154	0.085232	0.807625	1.000000	-0.009723	0.112758
13	-0.012770	-0.107346	0.207016	-0.017329	-0.009723	1.000000	0.010490
14	0.005332	-0.034471	0.097097	0.117289	0.112758	0.010490	1.000000
15	-0.017032	-0.066789	0.019038	-0.080985	-0.072596	0.097383	0.004067
16	0.026097	-0.091198	0.268635	0.077667	0.083396	0.343960	-0.041936
17	0.059835	0.017465	0.022612	0.042024	0.045620	0.037086	0.009621
18	0.159329	0.003019	0.039187	0.636892	0.600543	-0.072696	0.090936
19	0.022633	-0.022560	-0.067397	0.083720	0.065065	0.050572	-0.037628
20	0.066580	0.026255	-0.116405	0.141028	0.117096	-0.030516	-0.022078
21	0.157742	0.025898	-0.011217	0.396680	0.362584	0.051661	0.022072

EDUCATIONAL MODELS PROJECT
ELEMENTARY(K-8) TEACHER CORRELATION MATRIX

CORRELATION MATRIX TOTAL SAMPLE

	15	16	17	18	19	20	21
1	0.034381	0.309557	0.028553	-0.005124	-0.080352	-0.120602	-0.072757
2	-0.035303	0.018142	0.034533	0.380442	-0.011928	0.056372	0.093216
3	-0.008867	0.076158	0.043292	0.039148	-0.005313	0.031417	0.060565
4	-0.025388	0.018417	0.048785	0.094821	0.081592	0.085611	0.203132
5	0.053803	0.793479	0.086872	-0.035056	0.069652	0.010195	0.122257
6	-0.002832	0.080303	0.054698	0.096613	0.041827	0.057247	0.186876
7	0.091958	0.024518	0.079543	-0.125266	-0.101015	-0.027536	-0.126037
8	-0.017032	0.026097	0.059835	0.159329	0.022633	0.066580	0.157742
9	-0.066789	-0.091198	0.017465	0.003019	-0.022560	0.026255	0.025898
10	0.019038	0.268635	0.022612	0.039187	-0.067397	-0.116405	-0.011217
11	-0.080985	0.077667	0.042024	0.636892	0.083720	0.141028	0.396680
12	-0.072596	0.083396	0.045620	0.600543	0.065065	0.117096	0.362584
13	0.097383	0.343960	0.037086	-0.072696	0.050572	-0.030516	0.051661
14	0.004067	-0.041936	0.009621	0.090936	-0.037628	-0.022078	0.022072
15	1.000000	0.027240	0.016262	-0.070765	-0.009995	-0.031275	-0.049425
16	0.027240	1.000000	0.039781	-0.020763	0.138552	0.024498	0.165209
17	0.016262	0.039781	1.000000	0.041253	-0.018704	0.004816	0.083071
18	-0.070765	-0.020763	0.041253	1.000000	0.012659	0.108175	0.276237
19	-0.009995	0.138552	-0.018704	0.012659	1.000000	0.030921	0.102979
20	-0.031275	0.024498	0.004816	0.108175	0.030921	1.000000	0.205260
21	-0.049425	0.165209	0.083071	0.276237	0.102979	0.205260	1.000000